

SEQUENCE LISTING

<110> Anderson, David
Burgess, Catherine
Casman, Stacie
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Edinger, Shlomit R.
Ellerman, Karen
Gerlach, Valerie
Gunther, Erik
Kekuda, Ramesh
MacDougall, John R.
Mehraban, Fuad
Patturajan, Meera
Rothenberg, Mark
Shimkets, Richard
Smithson, Glennnda
Spytek, Kimberly A.
Stone, David J.
Vernet, Corine A.M.
Zerhusen, Bryan D.



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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Val
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Trp Arg Val Gly Pro Val Gly Met Gly Cys Gly Ser Gly Glu Asn Ser
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Val Gly Gly Ala Lys Gln Gly Ser Lys Gly Thr Ile Cys Ser Leu Pro
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Cys Pro Glu Gly Phe His Gly Pro Asn Cys Ser Gln Glu Cys Arg Cys
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His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln Cys Arg Cys Ala
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Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val Gly
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Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp Ser
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Phe Ile Gly Tyr Arg His Trp Gln Lys Asp Lys Glu His His His Leu		
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<212> PRT

<213> Homo sapiens

<400> 6

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Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
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Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
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Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu
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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
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Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
165 170 175

Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln
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Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
195 200 205

Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr
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Ser Gly Phe Phe Cys Pro Ser Thr His Ser Cys Gln Asn Gly Gly Val
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Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Val
 245 250 255

Trp Arg Val Gly Pro Val Gly Met Gly Cys Gly Ser Gly Glu Asn Ser
 260 265 270

Val Gly Gly Ala Lys Gln Gly Ser Lys Gly Thr Ile Cys Ser Leu Pro
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Cys Pro Glu Gly Phe His Gly Pro Asn Cys Ser Gln Glu Cys Arg Cys
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His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln Cys Arg Cys Ala
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Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu Glu Cys Pro Val Gly Arg
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Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His Gly Phe Thr Gly
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Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp Gly Phe Tyr Gly Leu Ser
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Cys Gln Ala Pro Arg Thr Cys Asp Arg Glu His Ser Leu Ser Cys His
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Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro Gly Cys Gln Glu
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Arg Cys Leu Cys Leu His Gly Gly Val Cys Gln Ala Thr Ser Gly Leu
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Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro His Cys Ala Ser Leu Cys
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Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser Ala Arg Cys Ser Cys Glu
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Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Glu Cys Val Cys Lys Glu
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Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys Ala His Glu Ala Val Cys
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Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly Trp His Gly Ala
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His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly Glu Gly Cys Ala
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Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys Ala Asn His Ser Phe Cys
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His Pro Ser Asn Gly Ala Cys Tyr Cys Leu Ala Gly Trp Thr Gly Pro
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Asp Cys Ser Gln Pro Cys Pro Pro Gly His Trp Gly Glu Asn Cys Ala
 675 680 685

Gln Thr Cys Gln Cys His His Gly Gly Thr Cys His Pro Gln Asp Gly
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Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly His His Cys Leu Glu Gly
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Ala	Gln	Gly	His	Asp	Asn	His	Thr	Thr	Leu	Pro	Ala	Asp	Trp	Lys	His	885	890	895
Arg	Arg	Glu	Pro	Pro	Pro	Gly	Pro	Leu	Asp	Arg	Gly	Arg	Cys	Arg	Glu	900	905	910
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<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
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Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln
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Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
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Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr
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Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly
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Thr Ile Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys
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Ser Gln Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr
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Ser Cys Gln Pro Gly Arg Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys
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Ala Asn His Ser Phe Cys His Pro Ser Asn Gly Thr Cys Tyr Cys Leu
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Cys His Pro Gln Asp Gly Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly
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His His Cys Leu Glu Gly Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys
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Ser Gln Pro Cys Gln Cys Gly Pro Gly Glu Lys Cys His Pro Glu Thr
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<210> 10

<211> 1037

<212> PRT

<213> Homo sapiens

<400> 10

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Leu Ala Gly Thr Leu Asn Pro Ser Asp Pro Asn Thr Cys Ser Phe Trp
 20 25 30

Glu Ser Phe Thr Thr Thr Thr Lys Glu Ser His Ser Arg Pro Phe Ser
 35 40 45

Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
 50 55 60

Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
 65 70 75 80

Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu
 85 90 95

Ser Arg Glu Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
 100 105 110

Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
 115 120 125

Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys
 130 135 140

Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
 145 150 155 160

Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
 165 170 175

Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln
 180 185 190

Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
 195 200 205

Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr
 210 215 220

Ser Gly Phe Phe Cys Pro Ser Thr His Pro Cys Gln Asn Gly Gly Val
 225 230 235 240

Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly
 245 250 255

Thr Ile Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys
 260 265 270

Ser Gln Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr
 275 280 285

Gly Gln Cys Arg Cys Ala Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu
 290 295 300

Glu Cys Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp
 305 310 315 320

Cys Ala Pro Asp Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys
 325 330 335

Glu His Gly Phe Thr Gly Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp
 340 345 350

Gly Phe Tyr Gly Leu Ser Cys Gln Ala Pro Cys Thr Cys Asp Arg Glu
 355 360 365

His Ser Leu Ser Cys His Pro Met Asn Gly Glu Cys Ser Cys Leu Pro
 370 375 380

Gly Trp Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His
 385 390 395 400

Gly Pro Gly Cys Gln Glu Tyr Cys Leu Cys Leu His Gly Gly Val Cys
 405 410 415

Gln Ala Thr Ser Gly Leu Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro
 420 425 430

His Cys Ala Ser Leu Cys Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser
 435 440 445

Ala Arg Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly
 450 455 460

Glu Cys Val Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro
 465 470 475 480

Cys Pro Pro Gly Thr Trp Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys
 485 490 495

Ala His Glu Ala Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr
 500 505 510

Pro Gly Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln
 515 520 525

Phe Gly Glu Gly Cys Ala Ser Arg Cys Asp Cys Asp His Ser Asp Gly
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Cys Asp Pro Val His Gly Arg Cys Gln Cys Gln Ala Gly Trp Met Gly
 545 550 555 560

Ala Arg Cys His Leu Ser Cys Pro Glu Gly Leu Trp Gly Val Asn Cys
 565 570 575

Ser Asn Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn
 580 585 590

Gly Asn Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg
 595 600 605

Ser Cys Gln Pro Gly Arg Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys
 610 615 620

Ala Asn His Ser Phe Cys His Pro Ser Asn Gly Thr Cys Tyr Cys Leu
 625 630 635 640

Ala Gly Trp Thr Gly Pro Asp Cys Ser Gln Pro Cys Pro Pro Gly His
 645 650 655

Trp Gly Glu Asn Cys Ala Gln Thr Cys Gln Cys His His Gly Gly Thr
 660 665 670

Cys His Pro Gln Asp Gly Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly
675 680 685

His His Cys Leu Glu Gly Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys
690 695 700

Ser Gln Pro Cys Gln Cys Gly Pro Gly Glu Lys Cys His Pro Glu Thr
705 710 715 720

Gly Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Pro Cys Arg Ile
725 730 735

Gly Ile Gln Glu Pro Phe Thr Val Met Pro Thr Thr Pro Val Ala Tyr
740 745 750

Asn Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Ser Leu Val
755 760 765

Val Ala Leu Val Ala Leu Phe Ile Gly Tyr Arg His Trp Gln Lys Gly
770 775 780

Lys Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp
785 790 795 800

Gly Ser Glu Tyr Val Met Pro Asp Val Pro Pro Ser Tyr Ser His Tyr
805 810 815

Tyr Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro
820 825 830

Pro Pro Pro Asn Lys Val Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn
835 840 845

Pro Glu Arg Pro Gly Gly Ala Gln Gly His Asp Asn His Thr Thr Leu
850 855 860

Pro Ala Asp Trp Lys His Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp
865 870 875 880

Arg Gly Ser Ser His Leu Asp Arg Ser Tyr Ser Tyr Ser Tyr Ser Asn
885 890 895

Gly Pro Gly Pro Phe Tyr Asp Lys Gly Leu Ile Ser Glu Glu Glu Leu
900 905 910

Gly Ala Ser Val Thr Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile
915 920 925

Arg Asp Leu Pro Ser Leu Pro Gly Gly Pro Arg Glu Ser Ser Tyr Met
 930 935 940

Glu Met Lys Gly Pro Pro Ser Gly Ser Pro Pro Arg Gln Pro Pro Gln
 945 950 955 960

Phe Trp Asp Ser Gln Arg Arg Arg Gln Pro Gln Pro Gln Arg Asp Ser
 965 970 975

Gly Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val
 980 985 990

Gly Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp
 995 1000 1005

Ser Pro Lys Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val
 1010 1015 1020

Arg His Pro Pro Ser Pro Pro Leu Arg Arg Gln Asp Arg
 1025 1030 1035

<210> 11

<211> 1833

<212> DNA

<213> Homo sapiens

<400> 11

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<210> 12

<211> 557

<212> PRT

<213> Homo sapiens

<400> 12

Met Leu Ala Ser Pro Ala Thr Glu Thr Thr Val Leu Met Ser Gln Thr
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Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu Gly Thr Ala Gly
 20 25 30

Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg Arg Phe Ser Gly
 35 40 45

Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Pro Ser Arg Arg Ser Ser
 50 55 60

Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Gln Pro Ala Ser Leu Leu
 65 70 75 80

Pro Glu Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro Thr Arg Ser Pro
 85 90 95

Pro Ser Ser Ser Lys Glu Pro Pro Glu Gly Thr Trp Met Gly Ala Ala
 100 105 110

Pro Val Lys Ala Val Asp Ser Ala Cys Pro Glu Leu Thr Gly Ser Ser
 115 120 125

Gly Gly Pro Gly Ser Arg Glu Pro Leu Arg Val Pro Glu Ala Val Ala
 130 135 140

Leu Glu Arg Arg Arg Glu Gln Glu Glu Lys Glu Asp Met Glu Thr Gln

145		150		155		160
Ala Val Ala Thr Ser Pro Asp Gly Arg Tyr Leu Lys Phe Asp Ile Glu						
	165		170		175	
Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Arg Gly Leu Asp Thr Asp						
	180		185		190	
Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Thr Arg Lys Leu Ser						
	195		200		205	
Arg Ala Glu Arg Gln Arg Phe Ser Glu Glu Val Glu Met Leu Lys Gly						
	210		215		220	
Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Lys Ser Val						
	225		230		235	240
Leu Arg Gly Gln Val Cys Ile Val Leu Val Thr Glu Leu Met Thr Ser						
	245		250		255	
Gly Thr Leu Lys Thr Tyr Leu Arg Arg Phe Arg Glu Met Lys Pro Arg						
	260		265		270	
Val Leu Gln Arg Trp Ser Arg Gln Ile Leu Arg Gly Leu His Phe Leu						
	275		280		285	
His Ser Arg Val Pro Pro Ile Leu His Arg Asp Leu Lys Cys Asp Asn						
	290		295		300	
Val Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp Leu Gly						
	305		310		315	320
Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile Gly Thr						
	325		330		335	
Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp Glu Ala						
	340		345		350	
Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala Thr Ser						
	355		360		365	
Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr Arg Lys						
	370		375		380	
Val Thr Ser Gly Arg Lys Pro Asn Ser Phe His Lys Val Lys Ile Pro						
	385		390		395	400
Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Thr Asp Lys Asn Glu						

405	410	415
Arg Phe Thr Ile Gln Asp Leu Leu Ala His Ala Phe Phe Arg Glu Glu		
420	425	430
Arg Gly Val His Val Glu Leu Ala Glu Glu Asp Asp Gly Glu Lys Pro		
435	440	445
Gly Leu Lys Leu Trp Leu Arg Met Glu Asp Ala Arg Arg Gly Gly Arg		
450	455	460
Pro Arg Asp Asn Gln Ala Ile Glu Phe Leu Phe Gln Leu Gly Arg Asp		
465	470	475
Ala Ala Glu Glu Val Ala Gln Glu Met Val Ala Leu Gly Leu Val Cys		
485	490	495
Glu Ala Asp Tyr Gln Pro Val Ala Arg Ala Val Arg Glu Arg Val Ala		
500	505	510
Ala Ile Gln Arg Lys Arg Glu Lys Leu Arg Lys Ala Arg Glu Leu Glu		
515	520	525
Ala Leu Pro Pro Glu Pro Gly Pro Pro Pro Ala Thr Val Pro Met Asp		
530	535	540
Pro Gly Pro Pro Thr Asp Val Tyr Pro Pro His Glu Thr		
545	550	555

<210> 13

<211> 2646

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1408)

<223> Where n is a o r c o r t o r g.

<400> 13

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aaaagtctct aaagaaaaac ccagcaaatt tattttcaaa tacatctgtg tgtgagccaa 360
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<210> 14
<211> 322
<212> PRT
<213> Homo sapiens

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<220>
<221> VARIANT
<222> (203)

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<223> Where Xaa is Ile or Met

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Arg Val Leu Phe Ala Ile Ile Leu Pro Ala Tyr Leu Leu Thr Leu Leu
35 40 45

Gly Asn Ser Ile Ile Ile Leu Val Ser Arg Leu Asp Pro His Leu His
50 55 60

Thr Pro Met Tyr Phe Phe Leu Thr His Leu Ser Phe Leu Asp Leu Ser
65 70 75 80

Phe Thr Ser Ser Ser Ile Pro Gln Leu Leu Tyr Asn Leu Ser Gly Pro
85 90 95

Asp Lys Thr Ile Ser Tyr Val Gly Cys Ala Leu Gln Leu Val Leu Phe
100 105 110

Leu Gly Leu Gly Gly Val Glu Cys Leu Leu Leu Ala Val Met Ala Tyr
115 120 125

Asp Arg Phe Val Ala Val Cys Lys Pro Leu His Tyr Met Val Ile Met
130 135 140

Asn Pro Gln Leu Cys Arg Gly Leu Val Ser Val Thr Trp Gly Cys Gly
145 150 155 160

Val Ala Asn Ser Leu Ala Met Ser Pro Val Thr Leu Arg Leu Pro Arg
165 170 175

Cys Gly His His Glu Val Asp His Phe Leu Arg Glu Met Pro Ala Leu
180 185 190

Ile Arg Met Ala Cys Val Ser Thr Val Ala Xaa Glu Gly Thr Val Phe
195 200 205

Val Leu Ala Val Gly Ala Ala Leu Ser Pro Leu Val Phe Ile Met Ile
210 215 220

Ser Tyr Ser Tyr Ile Val Arg Ala Val Leu Gln Ile Arg Ser Ala Ser
225 230 235 240

Gly Arg Gln Lys Ala Phe Gly Thr Cys Gly Ser His Leu Thr Val Val
 245 250 255
 Ser Leu Phe Tyr Gly Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ala
 260 265 270
 Ser Ser Ser Gln Asp Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile
 275 280 285
 Val Thr Pro Leu Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Arg Glu
 290 295 300
 Val Lys Gly Ala Leu Gly Arg Leu Leu Leu Gly Lys Arg Glu Leu Gly
 305 310 315 320
 Lys Glu

<210> 15
 <211> 2381
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (2004)
 <223> Where n is a o r c o r t o r g.

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<213> Homo sapiens

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35 40 45

Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala

50 55 60

Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu

65 70 75 80

Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu

85 90 95

Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro
 100 105 110

Arg Glu His Ala Trp Ile Leu Ala Ala Glu Gly Arg Tyr Glu Val
 115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Arg Gly Asp
 130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
 145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
 165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His
 180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly
 195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala
 210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser
 225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu
 245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val
 260 265 270

Gly Arg Glu Arg Leu Trp Arg Gln Ala Gly Glu Trp Gln Arg Arg Gly
 275 280 285

Pro Arg Arg Arg Thr Pro Arg Ala Ala Gly Trp Arg Lys Cys Ile Ala
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Phe Ser Ala Ile Cys Ser Pro His Ser Arg Thr Val Asp Arg Asp Arg
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Asp Trp Arg Ala Arg Arg Gly Cys Asp Thr Val Ala Met Ala Arg Ser
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Trp Val Val Pro Gly Ser Thr Glu Gly Glu Ala Pro Trp Thr Leu Leu
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Gly Pro Ala Arg Asn Arg Thr Arg Arg Gly Pro Thr Gln Val Leu Val
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Ser Gly Leu Leu
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<212> DNA

<213> Homo sapiens

<400> 17

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<211> 315

<212> PRT

<213> Homo sapiens

<400> 18

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Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala
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Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu
 65 70 75 80

Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu
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Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro
 100 105 110

Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val
 115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp
 130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
 145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
 165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His
 180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly
 195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala
 210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser
 225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu
 245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val
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Gly Ala Thr Ala Val Glu Thr Ser Arg Arg Val Ala Ala Ser Arg Thr
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<210> 19

<211> 6272

<212> DNA

<213> Homo sapiens

<400> 19

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Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala Gly
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Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Gly Thr Ser Pro Thr Ala
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Leu Pro Leu Cys Asp Pro Phe Thr Tyr Thr Ala Glu Glu Ala Lys Ala
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Glu Arg Gln Lys Gln Gly Pro Glu Arg Lys Arg Ile Lys Lys Glu Pro
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Val Thr Arg Lys Ala Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu
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Ser Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu
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Thr Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp
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Lys Val Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala
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Tyr Thr Ser Ser Glu Glu Ser Ser Ser Glu Glu Glu Asp Ala Pro Ser
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Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp Ser Glu Phe
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Glu Lys Gly Leu Lys His Lys Ala Lys Asn Pro Glu Pro Gln Lys Ala
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Thr Ala Pro Val Lys Asp Glu Tyr Glu Phe Asp Glu Asp Asp Glu Gln
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 660 665 670

Leu Leu Glu Asn Asp Leu Ser Thr Glu Asn Lys Leu Lys Val Leu Lys
 675 680 685

His Asp Arg Asp His Phe Lys Lys Glu Glu Lys Leu Ser Lys Met Lys
 690 695 700

Leu Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Lys Ser Leu Lys Arg
 705 710 715 720

Ile Lys Asp Lys Leu Arg Leu Tyr Lys Glu Glu Arg Asp Lys Ile Ser
 725 730 735

Lys Glu Lys Glu Lys Ile Phe Lys Glu Asp Lys Glu Lys Leu Lys Lys
 740 745 750

Glu Lys Val Tyr Arg Glu Asp Ser Leu Ser Asp Arg Asp Ser Ser Phe
 755 760 765

Asp Phe Lys Gly Ala Lys Leu Ile Leu Glu Thr Val Lys Glu Asp Ser
 770 775 780

Lys Glu Arg Arg Arg Asp Ser Arg Ala Arg Glu Lys His Pro Ala Arg
 785 790 795 800

Glu Lys Glu Lys Pro Asp Lys Arg Lys Arg Tyr Lys Glu Lys Asp Lys
 805 810 815

Asp Lys Ser Glu Lys Ser Ile Leu Glu Lys Cys Gln Lys Asp Lys Glu
 820 825 830

Lys Lys Glu Lys His Lys Asp Thr His Gly Lys Asp Lys Glu Arg Lys
 835 840 845

Ala Ser Val Phe Glu Lys His Lys Glu Lys Lys Asp Lys Glu Ser Thr
 850 855 860

Glu Lys Tyr Lys Asp Arg Ala Ser Val Asp Ser Thr Gln Asp Lys Lys
 865 870 875 880

Asn Lys Gln Glu Lys Ala Glu Lys Lys His Ala Ala Glu Asp Lys Ala
 885 890 895

Lys Ser Lys His Lys Glu Lys Ser Asp Lys Glu His Ser Lys Glu Arg
 900 905 910

Lys Ser Ser Arg Ser Ala Asp Ala Glu Tyr Arg Glu Ser Glu Val Ser
 915 920 925

Ser Asp Ser Phe Thr Asp Arg Glu Asp Asp Lys Ser Ala Cys Leu Pro
 930 935 940

Glu Lys Leu Lys Glu Lys Arg His Arg His Ser Ser Ser Ser Lys
 945 950 955 960

Lys Ser His Asp Arg Glu Glu Lys Lys Glu Asp Tyr Lys Glu Gly Arg
 965 970 975

Lys Gly Gln Tyr Glu Lys Asp Leu Glu Ala Asp Ala Tyr Gly Val Ser
 980 985 990

Tyr Asn Met Lys Ala Ile Glu Leu Phe Glu Lys Lys Asp Lys Asn Asp
 995 1000 1005

Glu Pro Leu Lys Glu Lys Lys Lys Arg Glu Lys His Arg Glu Lys Trp
 1010 1015 1020

Arg Asp Glu Lys Glu Arg His Arg Asp Arg His Ala Asp Arg Pro Lys
 1025 1030 1035 1040

Pro Ser Lys Asp Pro Gly Lys Lys Asp Ala Arg Pro Arg Glu Lys Leu
 1045 1050 1055

Leu Gly Asp Gly Asp Leu Met Met Thr Ser Phe Glu Arg Met Leu Ser
 1060 1065 1070

Gln Lys Asp Leu Glu Ile Glu Glu Arg His Lys Arg His Lys Glu Arg
 1075 1080 1085

Met Lys Gln Met Glu Lys Leu Arg His Arg Ser Gly Asp Pro Lys Leu
 1090 1095 1100

Lys Glu Lys Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Asp
 1105 1110 1115 1120

Ile Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys
 1125 1130 1135
 Lys Leu Lys Glu Ser Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Leu
 1140 1145 1150
 His Pro Ala Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His
 1155 1160 1165
 Met Lys Glu Val Leu Pro Ala Ser Pro Arg Pro Asp Gln Ser Arg Pro
 1170 1175 1180
 Thr Gly Val Pro Thr Pro Thr Ser Val Leu Ser Cys Pro Ser Tyr Glu
 1185 1190 1195 1200
 Glu Val Met His Thr Pro Arg Thr Pro Ser Cys Ser Ala Asp Asp Tyr
 1205 1210 1215
 Ala Asp Leu Val Phe Asp Cys Ala Asp Ser Gln His Ser Thr Pro Val
 1220 1225 1230
 Pro Thr Ala Pro Thr Ser Ala Cys Ser Pro Ser Phe Phe Asp Arg Phe
 1235 1240 1245
 Ser Val Ala Ser Ser Gly Leu Ser Glu Asn Ala Ser Gln Ala Pro Ala
 1250 1255 1260
 Arg Pro Leu Ser Thr Asn Leu Tyr Arg Ser Val Ser Val Asp Ile Asp
 1265 1270 1275 1280
 Lys Leu Phe Arg Gln Gln Ser Val Pro Ala Ala Ser Ser Tyr Asp Ser
 1285 1290 1295
 Pro Met Pro Pro Ser Met Glu Asp Arg Ala Pro Leu Pro Pro Val Pro
 1300 1305 1310
 Ala Glu Lys Phe Ala Cys Leu Ser Pro Gly Tyr Tyr Ser Pro Asp Tyr
 1315 1320 1325
 Gly Leu Pro Ser Pro Lys Val Asp Ala Leu His Cys Pro Pro Ala Ala
 1330 1335 1340
 Val Val Thr Val Thr Pro Ser Pro Glu Gly Val Phe Ser Ser Leu Gln
 1345 1350 1355 1360
 Ala Lys Pro Ser Pro Ser Pro Pro Ser Leu Asp Thr Ser Glu Asp Gln
 1365 1370 1375

Gln Ala Thr Ala Ala Ile Ile Pro Pro Glu Pro Ser Tyr Leu Glu Pro
 1380 1385 1390

Leu Asp Glu Gly Pro Phe Ser Ala Val Ile Thr Glu Glu Pro Val Glu
 1395 1400 1405

Trp Ala His Pro Ser Glu Gln Ala Leu Ala Ser Ser Leu Ile Gly Gly
 1410 1415 1420

Thr Ser Glu Asn Pro Val Ser Trp Pro Val Gly Ser Asp Leu Leu Leu
 1425 1430 1435 1440

Lys Ser Pro Gln Arg Phe Pro Glu Ser Pro Lys Arg Phe Cys Pro Ala
 1445 1450 1455

Asp Pro Leu His Ser Ala Ala Pro Gly Pro Phe Ser Ala Ser Glu Ala
 1460 1465 1470

Pro Tyr Pro Ala Pro Pro Ala Ser Pro Ala Pro Tyr Ala Leu Pro Val
 1475 1480 1485

Ala Glu Leu Glu Asp Val Lys Asp Val Pro Ala Ala Ile Ser Thr Ser
 1490 1495 1500

Glu Ala Ala Pro Tyr Ala Pro Pro Ser Gly Leu Glu Ser Phe Phe Ser
 1505 1510 1515 1520

Asn Cys Lys Ser Leu Pro Glu Ala Pro Leu Asp Val Ala Pro Glu Ala
 1525 1530 1535

Leu Gly Pro Leu Glu Asn Ser Phe Leu Asp Gly Ser Arg Gly Leu Ser
 1540 1545 1550

His Leu Gly Gln Val Glu Pro Val Pro Trp Ala Asp Ala Phe Ala Gly
 1555 1560 1565

Pro Glu Asp Asp Leu Asp Leu Gly Pro Phe Ser Leu Pro Glu Leu Pro
 1570 1575 1580

Leu Gln Thr Lys Asp Ala Ala Asp Gly Glu Ala Glu Pro Val Glu Glu
 1585 1590 1595 1600

Ser Leu Ala Pro Pro Glu Glu Met Pro Pro Gly Ala Pro Arg Glu Leu
 1605 1610 1615

Glu Pro Glu Pro Ser Gly Glu Pro Lys Leu Asp Val Ala Leu Glu Ala
 1620 1625 1630

Ala Val Glu Ala Glu Thr Val Pro Glu Glu Arg Ala Arg Gly Asp Pro
1635 1640 1645

Asp Ser Ser Val Glu Pro Ala Pro Val Pro Pro Glu Gln Leu Gly Ser
1650 1655 1660

Gly Asp Pro Ser Leu Cys Ala Pro Asp Gly Pro Ala Pro Asn Thr Val
1665 1670 1675 1680

Ala Gln Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu
1685 1690 1695

Ala Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gln Pro Glu
1700 1705 1710

Ala Ala Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg Glu
1715 1720 1725

Ile Pro Gln Arg Met Thr Arg Asn Arg Ala Gln Met Leu Ala Asn Gln
1730 1735 1740

Ser Lys Gln Gly Pro Pro Pro Ser Glu Lys Glu Cys Ala Pro Thr Pro
1745 1750 1755 1760

Ala Pro Val Thr Arg Ala Lys Ala Arg Gly Ser Glu Asp Asp Asp Ala
1765 1770 1775

Gln Ala Gln His Pro Arg Lys Arg Arg Phe Gln Arg Ser Thr Gln Gln
1780 1785 1790

Leu Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln Gln
1795 1800 1805

Thr Leu Ala Ala Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Glu Pro
1810 1815 1820

Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Tyr Leu Gln Ile Arg
1825 1830 1835 1840

Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro Gln
1845 1850 1855

Ala Pro Gln Cys Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr Leu
1860 1865 1870

Leu Asp Gly Lys Pro Leu Ser Lys Leu His Ile Pro Val Ile Ala Pro
1875 1880 1885

Pro Pro Ser Leu Ala Glu Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu
 1890 1895 1900

Ala Val Arg Gly Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys
 1905 1910 1915 1920

Leu Ile Val Ser Cys Glu Gln Glu Ile Leu Arg Val His Cys Arg Ala
 1925 1930 1935

Ala Arg Thr Ile Ala Asn Gln Ala Val Pro Phe Ser Ala Cys Thr Met
 1940 1945 1950

Leu Leu Asp Ser Glu Val Tyr Asn Met Pro Leu Glu Ser Gln Gly Asp
 1955 1960 1965

Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Ile Ser
 1970 1975 1980

Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg Met Lys Val Cys Leu
 1985 1990 1995 2000

Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg
 2005 2010 2015

Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp Pro Ala Gly His Lys
 2020 2025 2030

Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr Val Pro Met Val Asp
 2035 2040 2045

Val Asn Asp Asp Phe Val Leu Leu Pro Ala
 2050 2055

<210> 21

<211> 1749

<212> DNA

<213> Homo sapiens

<400> 21

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 aaggaagccg gtgagaagcc tcggggagca cagatggtgg acaaggctgg ctggatcaag 180
 aagagcagtg ggggcctcct gggtttctgg aaagaccgat atctgctcct ctgccaggcc 240
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cttcctact 1749

<210> 22

<211> 492

<212> PRT

<213> Homo sapiens

<400> 22

Met Glu Glu Glu Gly Val Lys Glu Ala Gly Glu Lys Pro Arg Gly Ala

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Gln Met Val Asp Lys Ala Gly Trp Ile Lys Lys Ser Ser Gly Gly Leu

20 25 30

Leu Gly Phe Trp Lys Asp Arg Tyr Leu Leu Leu Cys Gln Ala Gln Leu

35 40 45

Leu Val Tyr Glu Asn Glu Asp Asp Gln Lys Cys Val Glu Thr Val Glu

50 55 60

Leu Gly Ser Tyr Glu Lys Cys Gln Asp Leu Arg Ala Leu Leu Lys Arg

65 70 75 80

Lys His Arg Phe Ile Leu Leu Arg Ser Pro Gly Asn Lys Val Ser Asp

85 90 95

Ile Lys Phe Gln Ala Pro Thr Gly Glu Glu Lys Glu Ser Trp Ile Lys
 100 105 110

Ala Leu Asn Glu Gly Ile Asn Arg Gly Lys Asn Lys Ala Phe Asp Glu
 115 120 125

Val Lys Val Asp Lys Ser Cys Ala Leu Glu His Val Thr Arg Asp Arg
 130 135 140

Val Arg Gly Gly Gln Arg Arg Arg Pro Pro Thr Arg Val His Leu Lys
 145 150 155 160

Glu Val Ala Ser Ala Ala Ser Asp Gly Leu Leu Arg Leu Asp Leu Asp
 165 170 175

Val Pro Asp Ser Gly Pro Pro Val Phe Ala Pro Ser Asn His Val Ser
 180 185 190

Glu Ala Gln Pro Arg Glu Thr Pro Arg Pro Leu Met Pro Pro Thr Lys
 195 200 205

Pro Phe Leu Ala Pro Glu Thr Thr Ser Pro Gly Asp Arg Val Glu Thr
 210 215 220

Pro Val Gly Glu Arg Ala Pro Thr Pro Val Ser Ala Ser Ser Glu Val
 225 230 235 240

Ser Pro Glu Ser Gln Glu Asp Ser Glu Thr Pro Ala Glu Glu Asp Ser
 245 250 255

Gly Ser Glu Gln Pro Pro Asn Ser Val Leu Pro Asp Lys Leu Lys Val
 260 265 270

Ser Trp Glu Asn Pro Ser Pro Gln Glu Ala Pro Ala Ala Glu Ser Ala
 275 280 285

Glu Pro Ser Gln Ala Pro Cys Ser Glu Thr Ser Glu Ala Ala Pro Arg
 290 295 300

Glu Gly Gly Lys Pro Pro Thr Pro Pro Pro Lys Ile Leu Ser Glu Glu
 305 310 315 320

His Leu Lys Ala Ser Met Gly Glu Met Gln Ala Ser Gly Pro Pro Ala
 325 330 335

Pro Gly Thr Val Lys Gly Leu Ser Gln Met Ala Arg Met Glu Gly Leu
 340 345 350

Ser Ile Ala Lys His Ser Lys Ala Glu Gly Thr Gln Arg Thr Ser Pro
 355 360 365

Lys Asp Ala Leu Thr His Gln Ala Leu Pro Pro Trp Asp Leu Pro Pro
 370 375 380

Gln Phe His His Arg Cys Ser Ser Leu Gly Asp Leu Leu Gly Glu Gly
 385 390 395 400

Pro Arg His Pro Leu Gln Pro Arg Gln Arg Leu Tyr Arg Ala Gln Leu
 405 410 415

Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu Asn Lys Val
 420 425 430

Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu Leu Ser Gln
 435 440 445

Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln Glu Met Arg
 450 455 460

Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg Glu Lys Arg
 465 470 475 480

Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro
 485 490

<210> 23

<211> 1491

<212> DNA

<213> Homo sapiens

<400> 23

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 tgcactctcc tggcctgctt gggcgctctt gcaggcagct ggctggtgta cgtgcactac 180
 tcgtctact cggagcgctg tcgcgcccat gtctgccagg tggtcatttg tgaccagtac 240
 cgcaagggga tcatctcggg ctccgtctgc caggacctgt gtgagctgca tatggtggag 300
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 aaggatgtaa ccatcaagtg tggcattgag gagaccctcg actccaaggc ccggtcggat 420
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 ccggcgctgg ttggccagggt cctgctcatg gctgacttca acaaggacaa ccgggtgtcc 600
 ctggcggaag ccaagtccgt gtgggcccctg ctgcagcgta acgagttcct gctgctgctg 660
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cgggccaaaga tcgccatcgg cctgctggag ttctgtggagg agctcttcca cggctcttac 900
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 ataacagct tttatgtaat gccagggtc gagcaccctg agccccatc a 1491

<210> 24

<211> 431

<212> PRT

<213> Homo sapiens

<400> 24

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Ser	Lys	Arg	Leu	Gln	Gly	Arg	Leu	Pro	Gly	Leu	Arg	Val	Arg	Cys	Ile
			20					25						30	

Phe	Leu	Ala	Trp	Leu	Gly	Val	Phe	Ala	Gly	Ser	Trp	Leu	Val	Tyr	Val
	35						40						45		

His	Tyr	Ser	Ser	Tyr	Ser	Glu	Arg	Cys	Arg	Gly	His	Val	Cys	Gln	Val
	50					55					60				

Val	Ile	Cys	Asp	Gln	Tyr	Arg	Lys	Gly	Ile	Ile	Ser	Gly	Ser	Val	Cys
65				70					75					80	

Gln	Asp	Leu	Cys	Glu	Leu	His	Met	Val	Glu	Trp	Arg	Thr	Cys	Leu	Ser
		85						90						95	

Val	Ala	Pro	Gly	Gln	Gln	Val	Tyr	Ser	Gly	Leu	Trp	Arg	Asp	Lys	Asp
	100							105						110	

Val	Thr	Ile	Lys	Cys	Gly	Ile	Glu	Glu	Thr	Leu	Asp	Ser	Lys	Ala	Arg
	115						120					125			

Ser	Asp	Ala	Ala	Pro	Arg	Arg	Glu	Leu	Val	Leu	Phe	Asp	Lys	Pro	Thr
	130					135						140			

Arg	Gly	Thr	Ser	Ile	Lys	Glu	Phe	Arg	Glu	Met	Thr	Leu	Gly	Phe	Leu
145					150					155				160	

Lys Ala Asn Leu Gly Asp Leu Pro Ser Leu Pro Ala Leu Val Gly Gln
 165 170 175
 Val Leu Leu Met Ala Asp Phe Asn Lys Asp Asn Arg Val Ser Leu Ala
 180 185 190
 Glu Ala Lys Ser Val Trp Ala Leu Leu Gln Arg Asn Glu Phe Leu Leu
 195 200 205
 Leu Leu Ser Leu Gln Glu Lys Glu His Ala Ser Arg Leu Leu Gly Tyr
 210 215 220
 Cys Gly Asp Leu Tyr Leu Thr Glu Gly Val Pro His Gly Ala Trp His
 225 230 235 240
 Ala Ala Ala Leu Pro Pro Leu Leu Arg Pro Leu Leu Pro Pro Ala Leu
 245 250 255
 Gln Gly Ala Leu Gln Gln Trp Leu Gly Pro Ala Trp Pro Trp Arg Ala
 260 265 270
 Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu Leu Phe His Gly
 275 280 285
 Ser Tyr Gly Thr Phe Tyr Met Cys Glu Thr Thr Leu Ala Asn Val Gly
 290 295 300
 Tyr Thr Ala Thr Tyr Asp Phe Lys Met Ala Asp Leu Gln Gln Val Ala
 305 310 315 320
 Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg Arg Cys Glu His
 325 330 335
 Ser Thr Asp Cys Thr Tyr Gly Arg Asp Cys Arg Ala Pro Cys Asp Arg
 340 345 350
 Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro Asn Leu Ala Lys
 355 360 365
 Val Cys Ala Leu Leu Arg Gly Tyr Leu Leu Pro Gly Ala Pro Ala Asp
 370 375 380
 Leu Arg Glu Glu Leu Gly Thr Gln Leu Arg Thr Cys Thr Thr Leu Ser
 385 390 395 400
 Gly Leu Ala Ser Gln Val Glu Ala His His Ser Leu Val Leu Ser His
 405 410 415

Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Asn Thr Lys Tyr Ser
 420 425 430

<210> 25
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 25
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 cccagctgct ctacaacctt aatggatgtg acaagaccat cagctacatg ggctgtgcca 300
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 cctatgaccg gtgtgtggct atctgcaagc ccctgcacta catgggtgatc atgaacccca 420
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 tctttgtctt gaaaaaagggt gttgtgctgt ccccttgggt gtttatctct ctctcttaca 660
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 gggcactggg aaggttgctt ctggggaaga gagagctagg aaaggagtaa aggcattctcc 960
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 atattagccc acgactccca acttgccctt ttctggactt tt 1062

<210> 26
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 26
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 Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30
 Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45
 Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
 85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
 130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
 145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
 165 170 175

Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr
 180 185 190

Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu
 195 200 205

Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala
 210 215 220

Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile
 245 250 255

Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met
 260 265 270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu
 290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu
 305 310

<210> 27
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 27
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 gctacattgt gagggtctgt ttacaaattc ggtcagcatc aggaaggcag aaggccttcg 720
 gcacctgcgg ctcccatctc actgtggtct cccttttcta tggaaacatc atctacatgt 780
 acatgcagcc aggagccagt tcttcccagg accagggcat gttcctcatg ctcttctaca 840
 acattgtcac cccctctcct aatcctctca tctacacct cagaacaga gaggtgaagg 900
 gggcactggg aaggttgctt ttggggaaga gagagctagg aaaggagtaa aggcattctc 960
 acctgacttc acttccatcc agggccactg gcagcatctg gaacggctga attccagctg 1020
 atattagccc acgactccca acttgccttt ttctggactt tt 1062

<210> 28
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30
 Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45
 Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60
 His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
 85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
 130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
 145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
 165 170 175

Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr
 180 185 190

Val Ala Ile Asp Gly Thr Val Phe Val Leu Ala Val Gly Val Val Leu
 195 200 205

Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala
 210 215 220

Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile
 245 250 255

Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met
 260 265 270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu
 290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu
 305 310

<210> 29

<211> 624

<212> DNA

<213> Homo sapiens

<400> 29

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ctttgagctt ctctgactgc tgaccactga cccaccgact tgatgacagc accctcgtgt 60
gccttcccag ttcaaataccg gcagccctca gtcagcggcc tctcgcatat aacaaaaagc 120
ctgtatatca gcaatggtgt ggccgccaac aacaagctca tgctgtctag caaccagatc 180
accatggtca tcaatgtctc agtggaggta gtgaacacct tgtatgagga tatccagtac 240
atgcaggtag ctgtggctga ctcccctaac tcacgtctct gtgacttctt tgaccctatt 300
gctgaccata tccacagcgt ggagatgaag cagggccgta ctttgctgca ctgtgctgct 360
ggtgtgagcc gctcagctgc cctgtgcttc gcctacctca tgaagtacca cgccatgtcc 420
ctgctggagc cccacacgtg gaccaagtca tgccggccca tcatccgacc caacagcggc 480
ttttgggagc agtcacatca ctatgagttc caattgtttg gcaagaacac tgtgcacatg 540
gtcagttccc cagtgggaat gatccctgac atctatgaga aggaagtcgg tttgatgatt 600
ccactgtgag ccatcccacg agcc                                     624
```

<210> 30

<211> 188

<212> PRT

<213> Homo sapiens

<400> 30

```
Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Ile Arg Gln Pro Ser
  1                      5                      10                     15
```

```
Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly
      20                      25                     30
```

```
Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met
      35                      40                     45
```

```
Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile
      50                      55                     60
```

```
Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys
      65                      70                     75                     80
```

```
Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys
      85                      90                     95
```

```
Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
      100                     105                    110
```

```
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu
      115                     120                    125
```


Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
 130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly
 145 150 155 160

Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp
 165 170 175

Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu
 180 185

<210> 31

<211> 1034

<212> PRT

<213> Mus musculus

<400> 31

Met Pro Leu Cys Pro Leu Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr
 1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser
 20 25 30

Phe Thr Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu
 35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala
 50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met
 65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg
 85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys
 100 105 110

Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp
 115 120 125

Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys
 130 135 140

Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Ala
 145 150 155 160

Cys Phe Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln Pro Cys
 165 170 175

Pro Ala Gly His Tyr Gly Pro Ala Cys Gln Phe Asp Cys Gln Cys Tyr
 180 185 190

Gly Ala Ser Cys Asp Pro Gln Asp Gly Ala Cys Phe Cys Pro Pro Gly
 195 200 205

Arg Ala Gly Pro Ser Cys Asn Val Pro Cys Ser Gln Gly Thr Asp Gly
 210 215 220

Phe Phe Cys Pro Arg Thr Tyr Pro Cys Gln Asn Gly Gly Val Pro Gln
 225 230 235 240

Gly Ser Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly Val Ile
 245 250 255

Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys Thr Gln
 260 265 270

Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln
 275 280 285

Cys His Cys Ala Pro Gly Tyr Ile Gly Asp Arg Cys Gln Glu Glu Cys
 290 295 300

Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala
 305 310 315 320

Pro Gly Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His
 325 330 335

Gly Phe Thr Gly Asp Arg Cys Thr Glu Arg Leu Cys Pro Asp Gly Arg
 340 345 350

Tyr Gly Leu Ser Cys Gln Glu Pro Cys Thr Cys Asp Pro Glu His Ser
 355 360 365

Leu Ser Cys His Pro Met His Gly Glu Cys Ser Cys Gln Pro Gly Trp
 370 375 380

Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro
 385 390 395 400

Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Leu Cys Leu Ala
 405 410 415

Asp Ser Gly Leu Cys Arg Cys Ala Pro Gly Tyr Thr Gly Pro His Cys
 420 425 430

Ala Asn Leu Cys Pro Pro Asp Thr Tyr Gly Ile Asn Cys Ser Ser Arg
 435 440 445

Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Thr Cys
 450 455 460

Ile Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro
 465 470 475 480

Leu Gly Thr Trp Gly Phe Asn Cys Asn Ala Ser Cys Gln Cys Ala His
 485 490 495

Asp Gly Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly
 500 505 510

Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly
 515 520 525

Glu Gly Cys Ala Ser Val Cys Asp Cys Asp His Ser Asp Gly Cys Asp
 530 535 540

Pro Val His Gly Gln Cys Arg Cys Gln Ala Gly Trp Met Gly Thr Arg
 545 550 555 560

Cys His Leu Pro Cys Pro Glu Gly Phe Trp Gly Ala Asn Cys Ser Asn
 565 570 575

Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Val Ser Glu Asn Gly Asn
 580 585 590

Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Pro Cys
 595 600 605

Pro Pro Gly Arg Tyr Gly Lys Arg Cys Val Gln Cys Lys Cys Asn Asn
 610 615 620

Asn His Ser Ser Cys His Pro Ser Asp Gly Thr Cys Ser Cys Leu Ala
 625 630 635 640

Gly Trp Thr Gly Pro Asp Cys Ser Glu Ala Cys Pro Pro Gly His Trp
 645 650 655

Gly Leu Lys Cys Ser Gln Leu Cys Gln Cys His His Gly Gly Thr Cys
 660 665 670

His Pro Gln Asp Gly Ser Cys Ile Cys Thr Pro Gly Trp Thr Gly Pro
 675 680 685

Asn Cys Leu Glu Gly Cys Pro Pro Arg Met Phe Gly Val Asn Cys Ser
 690 695 700

Gln Leu Cys Gln Cys Asp Leu Gly Glu Met Cys His Pro Gln Thr Gly
 705 710 715 720

Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Asp Cys Lys Met Gly
 725 730 735

Ser Gln Glu Ser Phe Thr Ile Met Pro Thr Ser Pro Val Thr His Asn
 740 745 750

Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Thr Leu Val Val
 755 760 765

Ala Leu Ile Ala Leu Phe Ile Gly Tyr Arg Gln Trp Gln Lys Gly Lys
 770 775 780

Glu His Glu His Leu Ala Val Ala Tyr Ser Thr Gly Arg Leu Asp Gly
 785 790 795 800

Ser Asp Tyr Val Met Pro Asp Val Ser Pro Ser Tyr Ser His Tyr Tyr
 805 810 815

Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro
 820 825 830

Pro Pro Asn Lys Val Pro Gly Ser Gln Leu Phe Val Ser Ser Gln Ala
 835 840 845

Pro Glu Arg Pro Ser Arg Ala His Gly Arg Glu Asn His Val Thr Leu
 850 855 860

Pro Ala Asp Trp Lys His Arg Arg Glu Pro His Glu Arg Gly Ala Ser
 865 870 875 880

His Leu Asp Arg Ser Tyr Ser Cys Ser Tyr Ser His Arg Asn Gly Pro
 885 890 895

Gly Pro Phe Cys His Lys Gly Pro Ile Ser Glu Glu Gly Leu Gly Ala
 900 905 910

Ser Val Met Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg Asp
 915 920 925

Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met
 930 935 940

Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg
 945 950 955 960

Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr
 965 970 975

Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr
 980 985 990

Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly Gln Tyr Asp Ser Pro Lys
 995 1000 1005

Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro
 1010 1015 1020

Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg
 1025 1030

<210> 32

<211> 1034

<212> PRT

<213> Mus musculus

<400> 32

Met Pro Leu Cys Pro Leu Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr
 1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser
 20 25 30

Phe Thr Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu
 35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala
 50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met
 65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg
 85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys

100	105	110
Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp		
115	120	125
Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys		
130	135	140
Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Thr		
145	150	155
Cys Phe Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln Pro Cys		
165	170	175
Pro Ala Gly His Tyr Gly Pro Ala Cys Gln Phe Asp Cys Gln Cys Tyr		
180	185	190
Gly Ala Ser Cys Asp Pro Gln Asp Gly Ala Cys Phe Cys Pro Pro Gly		
195	200	205
Arg Ala Gly Pro Ser Cys Asn Val Pro Cys Ser Gln Gly Thr Asp Gly		
210	215	220
Phe Phe Cys Pro Arg Thr Tyr Pro Cys Gln Asn Gly Gly Val Pro Gln		
225	230	235
Gly Ser Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly Val Ile		
245	250	255
Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys Thr Gln		
260	265	270
Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln		
275	280	285
Cys His Cys Ala Pro Gly Tyr Ile Gly Asp Arg Cys Gln Glu Glu Cys		
290	295	300
Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala		
305	310	315
Pro Gly Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His		
325	330	335
Gly Phe Thr Gly Asp Arg Cys Thr Glu Arg Leu Cys Pro Asp Gly Arg		
340	345	350
Tyr Gly Leu Ser Cys Gln Glu Pro Cys Thr Cys Asp Pro Glu His Ser		

355	360	365
Leu Ser Cys His Pro Met His Gly Glu Cys Ser Cys Gln Pro Gly Trp		
370	375	380
Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro		
385	390	395 400
Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Leu Cys Leu Ala		
405	410	415
Asp Ser Gly Leu Cys Arg Cys Ala Pro Gly Tyr Thr Gly Pro His Cys		
420	425	430
Ala Asn Leu Cys Pro Pro Asp Thr Tyr Gly Ile Asn Cys Ser Ser Arg		
435	440	445
Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Thr Cys		
450	455	460
Ile Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro		
465	470	475 480
Leu Gly Thr Trp Gly Phe Asn Cys Asn Ala Ser Cys Gln Cys Ala His		
485	490	495
Asp Gly Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly		
500	505	510
Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly		
515	520	525
Glu Gly Cys Ala Ser Val Cys Asp Cys Asp His Ser Asp Gly Cys Asp		
530	535	540
Pro Val His Gly Gln Cys Arg Cys Gln Ala Gly Trp Met Gly Thr Arg		
545	550	555 560
Cys His Leu Pro Cys Pro Glu Gly Phe Trp Gly Ala Asn Cys Ser Asn		
565	570	575
Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Val Ser Glu Asn Gly Asn		
580	585	590
Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Pro Cys		
595	600	605
Pro Pro Gly Arg Tyr Gly Lys Arg Cys Val Gln Cys Lys Cys Asn Asn		

865	870	875	880
His Leu Asp Arg Ser Tyr Ser Cys Ser Tyr Ser His Arg Asn Gly Pro			
885	890	895	
Gly Pro Phe Cys His Lys Gly Pro Ile Ser Glu Glu Gly Leu Gly Ala			
900	905	910	
Ser Val Met Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg Asp			
915	920	925	
Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met			
930	935	940	
Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg			
945	950	955	960
Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr			
965	970	975	
Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr			
980	985	990	
Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp Ser Pro Lys			
995	1000	1005	
Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro			
1010	1015	1020	
Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg			
1025	1030		

<210> 33

<211> 1140

<212> PRT

<213> Homo sapiens

<400> 33

Met Val Ile Ser Leu Asn Ser Cys Leu Ser Phe Ile Cys Leu Leu Leu
1 5 10 15

Cys His Trp Ile Gly Thr Ala Ser Pro Leu Asn Leu Glu Asp Pro Asn
20 25 30

Val Cys Ser His Trp Glu Ser Tyr Ser Val Thr Val Gln Glu Ser Tyr
35 40 45

Pro His Pro Phe Asp Gln Ile Tyr Tyr Thr Ser Cys Thr Asp Ile Leu
 50 55 60

Asn Trp Phe Lys Cys Thr Arg His Arg Val Ser Tyr Arg Thr Ala Tyr
 65 70 75 80

Arg His Gly Glu Lys Thr Met Tyr Arg Arg Lys Ser Gln Cys Cys Pro
 85 90 95

Gly Phe Tyr Glu Ser Gly Glu Met Cys Val Pro His Cys Ala Asp Lys
 100 105 110

Cys Val His Gly Arg Cys Ile Ala Pro Asn Thr Cys Gln Cys Glu Pro
 115 120 125

Gly Trp Gly Gly Thr Asn Cys Ser Ser Ala Cys Asp Gly Asp His Trp
 130 135 140

Gly Pro His Cys Thr Ser Arg Cys Gln Cys Lys Asn Gly Ala Leu Cys
 145 150 155 160

Asn Pro Ile Thr Gly Ala Cys His Cys Ala Ala Gly Phe Arg Gly Trp
 165 170 175

Arg Cys Glu Asp Arg Cys Glu Gln Gly Thr Tyr Gly Asn Asp Cys His
 180 185 190

Gln Arg Cys Gln Cys Gln Asn Gly Ala Thr Cys Asp His Val Thr Gly
 195 200 205

Glu Cys Arg Cys Pro Pro Gly Tyr Thr Gly Ala Phe Cys Glu Asp Leu
 210 215 220

Cys Pro Pro Gly Lys His Gly Pro Gln Cys Glu Gln Arg Cys Pro Cys
 225 230 235 240

Gln Asn Gly Gly Val Cys His His Val Thr Gly Glu Cys Ser Cys Pro
 245 250 255

Ser Gly Trp Met Gly Thr Val Cys Gly Gln Pro Cys Pro Glu Gly Arg
 260 265 270

Phe Gly Lys Asn Cys Ser Gln Glu Cys Gln Cys His Asn Gly Gly Thr
 275 280 285

Cys Asp Ala Ala Thr Gly Gln Cys His Cys Ser Pro Gly Tyr Thr Gly
 290 295 300

Glu Arg Cys Gln Asp Glu Cys Pro Val Gly Thr Tyr Gly Val Leu Cys
 305 310 315 320

Ala Glu Thr Cys Gln Cys Val Asn Gly Gly Lys Cys Tyr His Val Ser
 325 330 335

Gly Ala Cys Leu Cys Glu Ala Gly Phe Ala Gly Glu Arg Cys Glu Ala
 340 345 350

Arg Leu Cys Pro Glu Gly Leu Tyr Gly Ile Lys Cys Asp Lys Arg Cys
 355 360 365

Pro Cys His Leu Glu Asn Thr His Ser Cys His Pro Met Ser Gly Glu
 370 375 380

Cys Ala Cys Lys Pro Gly Trp Ser Gly Leu Tyr Cys Asn Glu Thr Cys
 385 390 395 400

Ser Pro Gly Phe Tyr Gly Glu Ala Cys Gln Gln Ile Cys Ser Cys Gln
 405 410 415

Asn Gly Ala Asp Cys Asp Ser Val Thr Gly Lys Cys Thr Cys Ala Pro
 420 425 430

Gly Phe Lys Gly Ile Asp Cys Ser Thr Pro Cys Pro Leu Gly Thr Tyr
 435 440 445

Gly Ile Asn Cys Ser Ser Arg Cys Gly Cys Lys Asn Asp Ala Val Cys
 450 455 460

Ser Pro Val Asp Gly Ser Cys Thr Cys Lys Ala Gly Trp His Gly Val
 465 470 475 480

Asp Cys Ser Ile Arg Cys Pro Ser Gly Thr Trp Gly Phe Gly Cys Asn
 485 490 495

Leu Thr Cys Gln Cys Leu Asn Gly Gly Ala Cys Asn Thr Leu Asp Gly
 500 505 510

Thr Cys Thr Cys Ala Pro Gly Trp Arg Gly Glu Lys Cys Glu Leu Pro
 515 520 525

Cys Gln Asp Gly Thr Tyr Gly Leu Asn Cys Ala Glu Arg Cys Asp Cys
 530 535 540

Ser His Ala Asp Gly Cys His Pro Thr Thr Gly His Cys Arg Cys Leu
 545 550 555 560

Cys Tyr Cys Ser Pro Gly Trp Lys Gly Ala Arg Cys Asp Gln Ala Gly
 820 825 830

Val Ile Ile Val Gly Asn Leu Asn Ser Leu Ser Arg Thr Ser Thr Ala
 835 840 845

Leu Pro Ala Asp Ser Tyr Gln Ile Gly Ala Ile Ala Gly Ile Ile Ile
 850 855 860

Leu Val Leu Val Val Leu Phe Leu Leu Ala Leu Phe Ile Ile Tyr Arg
 865 870 875 880

His Lys Gln Lys Gly Lys Glu Ser Ser Met Pro Ala Val Thr Tyr Thr
 885 890 895

Pro Ala Met Arg Val Val Asn Ala Asp Tyr Thr Ile Ser Gly Thr Leu
 900 905 910

Pro His Ser Asn Gly Gly Asn Ala Asn Ser His Tyr Phe Thr Asn Pro
 915 920 925

Ser Tyr His Thr Leu Thr Gln Cys Ala Thr Ser Pro His Val Asn Asn
 930 935 940

Arg Asp Arg Met Thr Val Thr Lys Ser Lys Asn Asn Gln Leu Phe Val
 945 950 955 960

Asn Leu Lys Asn Val Asn Pro Gly Lys Arg Gly Pro Val Gly Asp Cys
 965 970 975

Thr Gly Thr Leu Pro Ala Asp Trp Lys His Gly Gly Tyr Leu Asn Glu
 980 985 990

Leu Gly Ala Phe Gly Leu Asp Arg Ser Tyr Met Gly Lys Ser Leu Lys
 995 1000 1005

Asp Leu Gly Lys Asn Ser Glu Tyr Asn Ser Ser Asn Cys Ser Leu Ser
 1010 1015 1020

Ser Ser Glu Asn Pro Tyr Ala Thr Ile Lys Asp Pro Pro Val Leu Ile
 1025 1030 1035 1040

Pro Lys Ser Ser Glu Cys Gly Tyr Val Glu Met Lys Ser Pro Ala Arg
 1045 1050 1055

Arg Asp Ser Pro Tyr Ala Glu Ile Asn Asn Ser Thr Ser Ala Asn Arg
 1060 1065 1070

Asn Val Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Gly Val Phe
 1075 1080 1085

Ser Asn Asn Gly Arg Leu Ser Gln Asp Pro Tyr Asp Leu Pro Lys Asn
 1090 1095 1100

Ser His Ile Pro Cys His Tyr Asp Leu Leu Pro Val Arg Asp Ser Ser
 1105 1110 1115 1120

Ser Ser Pro Lys Gln Glu Asp Ser Gly Gly Ser Ser Ser Asn Ser Ser
 1125 1130 1135

Ser Ser Ser Glu
 1140

<210> 34
 <211> 969
 <212> PRT
 <213> Homo sapiens

<400> 34
 Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser
 1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys
 20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly
 35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly
 50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn
 65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg
 85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu
 100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu
 115 120 125

Cys Leu Cys Ala Pro Gly Tyr Thr Gly Val Tyr Cys Glu Glu Leu Cys
 130 135 140

Pro Pro Gly Ser His Gly Ala His Cys Glu Leu Arg Cys Pro Cys Gln
 145 150 155 160
 Asn Gly Gly Thr Cys His His Ile Thr Gly Glu Cys Ala Cys Pro Pro
 165 170 175
 Gly Trp Thr Gly Ala Val Cys Ala Gln Pro Cys Pro Pro Gly Thr Phe
 180 185 190
 Gly Gln Asn Cys Ser Gln Asp Cys Pro Cys His His Gly Gly Gln Cys
 195 200 205
 Asp His Val Thr Gly Gln Cys His Cys Thr Ala Gly Tyr Met Gly Asp
 210 215 220
 Arg Cys Gln Glu Glu Cys Pro Phe Gly Ser Phe Gly Phe Gln Cys Ser
 225 230 235 240
 Gln Arg Cys Asp Cys His Asn Gly Gly Gln Cys Ser Pro Thr Thr Gly
 245 250 255
 Ala Cys Glu Cys Glu Pro Gly Tyr Lys Gly Pro Arg Cys Gln Glu Arg
 260 265 270
 Leu Cys Pro Glu Gly Leu His Gly Pro Gly Cys Thr Leu Pro Cys Pro
 275 280 285
 Cys Asp Ala Asp Asn Thr Ile Ser Cys His Pro Val Thr Gly Ala Cys
 290 295 300
 Thr Cys Gln Pro Gly Trp Ser Gly His His Cys Asn Glu Ser Cys Pro
 305 310 315 320
 Val Gly Tyr Tyr Gly Asp Gly Cys Gln Leu Pro Cys Thr Cys Gln Asn
 325 330 335
 Gly Ala Asp Cys His Ser Ile Thr Gly Gly Cys Thr Cys Ala Pro Gly
 340 345 350
 Phe Met Gly Glu Val Cys Ala Val Ser Cys Ala Ala Gly Thr Tyr Gly
 355 360 365
 Pro Asn Cys Ser Ser Ile Cys Ser Cys Asn Asn Gly Gly Thr Cys Ser
 370 375 380
 Pro Val Asp Gly Ser Cys Thr Cys Lys Glu Gly Trp Gln Gly Leu Asp
 385 390 395 400

Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu
 405 410 415
 Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser
 420 425 430
 Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys
 435 440 445
 Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser
 450 455 460
 His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala
 465 470 475 480
 Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp
 485 490 495
 Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys
 500 505 510
 Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro
 515 520 525
 Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala
 530 535 540
 Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile
 545 550 555 560
 Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn
 565 570 575
 Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys
 580 585 590
 Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln
 595 600 605
 Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro
 610 615 620
 Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly
 625 630 635 640
 Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp
 645 650 655

Thr Gly Leu Phe Cys Thr Gln Arg Cys Pro Ala Ala Phe Phe Gly Lys
 660 665 670

Asp Cys Gly Arg Val Cys Gln Cys Gln Asn Gly Ala Ser Cys Asp His
 675 680 685

Ile Ser Gly Lys Cys Thr Cys Arg Thr Gly Phe Thr Gly Gln His Cys
 690 695 700

Glu Gln Arg Cys Ala Pro Gly Thr Phe Gly Tyr Gly Cys Gln Gln Leu
 705 710 715 720

Cys Glu Cys Met Asn Asn Ser Thr Cys Asp His Val Thr Gly Thr Cys
 725 730 735

Tyr Cys Ser Pro Gly Phe Lys Gly Ile Arg Cys Asp Gln Ala Ala Leu
 740 745 750

Met Met Glu Glu Leu Asn Pro Tyr Thr Lys Ile Ser Pro Ala Leu Gly
 755 760 765

Ala Glu Arg His Ser Val Gly Ala Val Thr Gly Ile Met Leu Leu Leu
 770 775 780

Phe Phe Ile Val Val Leu Leu Gly Leu Phe Ala Trp His Arg Arg Arg
 785 790 795 800

Gln Lys Glu Lys Gly Arg Asp Leu Ala Pro Arg Val Ser Tyr Thr Pro
 805 810 815

Ala Met Arg Met Thr Ser Thr Asp Tyr Ser Leu Ser Gly Ala Cys Gly
 820 825 830

Met Asp Arg Arg Gln Asn Thr Tyr Ile Met Asp Lys Gly Phe Lys Asp
 835 840 845

Tyr Met Lys Glu Ser Val Cys Ser Ser Ser Thr Cys Ser Leu Asn Ser
 850 855 860

Ser Glu Asn Pro Tyr Ala Thr Ile Lys Asp Pro Pro Ile Leu Thr Cys
 865 870 875 880

Lys Leu Pro Glu Ser Ser Tyr Val Glu Met Lys Ser Pro Val His Met
 885 890 895

Gly Ser Pro Tyr Thr Asp Val Pro Ser Leu Ser Thr Ser Asn Lys Asn
 900 905 910

Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly
 915 920 925

His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp Leu Pro Arg Asn Ser
 930 935 940

His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala
 945 950 955 960

Asn Gly Pro Ser Gln Asp Lys Gln Ser
 965

<210> 35

<211> 969

<212> PRT

<213> Homo sapiens

<400> 35

Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser
 1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys
 20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly
 35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly
 50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn
 65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg
 85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu
 100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu
 115 120 125

Cys Leu Cys Ala Pro Gly Tyr Thr Gly Val Tyr Cys Glu Glu Leu Cys
 130 135 140

Pro Pro Gly Ser His Gly Ala His Cys Glu Leu Arg Cys Pro Cys Gln

145	150	155	160
Asn Gly Gly Thr Cys His His Ile Thr Gly Glu Cys Ala Cys Pro Pro			
165		170	175
Gly Trp Thr Gly Ala Val Cys Ala Gln Pro Cys Pro Pro Gly Thr Phe			
180	185		190
Gly Gln Asn Cys Ser Gln Asp Cys Pro Cys His His Gly Gly Gln Cys			
195	200		205
Asp His Val Thr Gly Gln Cys His Cys Thr Ala Gly Tyr Met Gly Asp			
210	215	220	
Arg Cys Gln Glu Glu Cys Pro Phe Gly Ser Phe Gly Phe Gln Cys Ser			
225	230	235	240
Gln His Cys Asp Cys His Asn Gly Gly Gln Cys Ser Pro Thr Thr Gly			
245	250		255
Ala Cys Glu Cys Glu Pro Gly Tyr Lys Gly Pro Arg Cys Gln Glu Arg			
260	265		270
Leu Cys Pro Glu Gly Leu His Gly Pro Gly Cys Thr Leu Pro Cys Pro			
275	280		285
Cys Asp Ala Asp Asn Thr Ile Ser Cys His Pro Val Thr Gly Ala Cys			
290	295	300	
Thr Cys Gln Pro Gly Trp Ser Gly His His Cys Asn Glu Ser Cys Pro			
305	310	315	320
Val Gly Tyr Tyr Gly Asp Gly Cys Gln Leu Pro Cys Thr Cys Gln Asn			
325	330		335
Gly Ala Asp Cys His Ser Ile Thr Gly Gly Cys Thr Cys Ala Pro Gly			
340	345		350
Phe Met Gly Glu Val Cys Ala Val Ser Cys Ala Ala Gly Thr Tyr Gly			
355	360		365
Pro Asn Cys Ser Ser Ile Cys Ser Cys Asn Asn Gly Gly Thr Cys Ser			
370	375	380	
Pro Val Asp Gly Ser Cys Thr Cys Lys Glu Gly Trp Gln Gly Leu Asp			
385	390	395	400
Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu			

405	410	415
Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser		
420	425	430
Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys		
435	440	445
Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser		
450	455	460
His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala		
465	470	475
Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp		
485	490	495
Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys		
500	505	510
Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro		
515	520	525
Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala		
530	535	540
Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile		
545	550	555
Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn		
565	570	575
Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys		
580	585	590
Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln		
595	600	605
Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro		
610	615	620
Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly		
625	630	635
Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp		
645	650	655
Thr Gly Leu Phe Cys Thr Gln Arg Cys Pro Ala Ala Phe Phe Gly Lys		

660	665	670
Asp Cys Gly Arg Val Cys Gln Cys Gln Asn Gly Ala Ser Cys Asp His		
675	680	685
Ile Ser Gly Lys Cys Thr Cys Arg Thr Gly Phe Thr Gly Gln His Cys		
690	695	700
Glu Gln Arg Cys Ala Pro Gly Thr Phe Gly Tyr Gly Cys Gln Gln Leu		
705	710	715
Cys Glu Cys Met Asn Asn Ser Thr Cys Asp His Val Thr Gly Thr Cys		
725	730	735
Tyr Cys Ser Pro Gly Phe Lys Gly Ile Arg Cys Asp Gln Ala Ala Leu		
740	745	750
Met Met Glu Glu Leu Asn Pro Tyr Thr Lys Ile Ser Pro Ala Leu Gly		
755	760	765
Ala Glu Arg His Ser Val Gly Ala Val Thr Gly Ile Met Leu Leu Leu		
770	775	780
Phe Leu Ile Val Val Leu Leu Gly Leu Phe Ala Trp His Arg Arg Arg		
785	790	795
Gln Lys Glu Lys Gly Arg Asp Leu Ala Pro Arg Val Ser Tyr Thr Pro		
805	810	815
Ala Met Arg Met Thr Ser Thr Asp Tyr Ser Leu Ser Gly Ala Cys Gly		
820	825	830
Met Asp Arg Arg Gln Asn Thr Tyr Ile Met Asp Lys Gly Phe Lys Xaa		
835	840	845
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
850	855	860
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
865	870	875
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Met Lys Ser Pro Val His Met		
885	890	895
Gly Ser Pro Tyr Thr Asp Val Pro Ser Leu Ser Thr Ser Asn Lys Asn		
900	905	910
Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly		

915	920	925
His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp	Leu Pro Arg Asn Ser	
930	935	940
His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala		
945	950	955
Asn Gly Pro Ser Gln Asp Lys Gln Ser		
965		
<210> 36		
<211> 1234		
<212> PRT		
<213> Homo sapiens		
<400> 36		
Met Leu Ala Ser Pro Ala Thr Glu Thr Thr Val Leu Met Ser Gln Thr		
1	5	10
Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu Gly Thr Ala Gly		
20	25	30
Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg Arg Phe Ser Gly		
35	40	45
Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser Arg Arg Ser Ser		
50	55	60
Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro Ala Ser Pro Ala		
65	70	75
Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro Gly Pro Ala Arg		
85	90	95
Ser Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly Thr Trp Thr Glu Gly		
100	105	110
Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg Pro Glu Leu Pro Asp		
115	120	125
Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu Arg Val Pro Glu Ala		
130	135	140
Val Ala Leu Glu Arg Arg Arg Glu Gln Glu Glu Lys Glu Asp Met Glu		
145	150	155
		160

Thr	Gln	Ala	Val	Ala	Thr	Ser	Pro	Asp	Gly	Arg	Tyr	Leu	Lys	Phe	Asp	
				165					170					175		
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Arg	Gly	Leu	Asp	Thr	
			180					185					190			
Asp	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Thr	Arg	Lys	Leu	
		195					200					205				
Ser	Arg	Ala	Glu	Arg	Gln	Arg	Phe	Ser	Glu	Glu	Val	Glu	Met	Leu	Lys	
	210					215					220					
Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Lys	Ser	
225				230					235						240	
Val	Leu	Arg	Gly	Gln	Val	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met	Thr	
			245					250						255		
Ser	Gly	Thr	Leu	Lys	Thr	Leu	Arg	Arg	Phe	Arg	Glu	Met	Lys	Pro	Arg	
		260					265						270			
Val	Leu	Gln	Arg	Trp	Ser	Arg	Gln	Ile	Leu	Arg	Gly	Leu	His	Phe	Leu	
		275					280						285			
His	Ser	Arg	Val	Pro	Pro	Ile	Leu	His	Arg	Asp	Leu	Lys	Cys	Asp	Asn	
	290					295				300						
Val	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp	Leu	Gly	
305				310						315					320	
Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile	Gly	Thr	
			325					330						335		
Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp	Glu	Ala	
		340					345						350			
Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala	Thr	Ser	
		355					360					365				
Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Lys	Val	Thr	
	370					375					380					
Ser	Gly	Arg	Lys	Pro	Asn	Ser	Phe	His	Lys	Val	Lys	Ile	Pro	Glu	Val	
385				390						395					400	
Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Thr	Asp	Lys	Asn	Glu	Arg	Phe	
			405					410						415		

Thr Ile Gln Asp Leu Leu Ala His Ala Phe Phe Arg Glu Glu Arg Gly
 420 425 430

Val His Val Glu Leu Ala Glu Glu Asp Asp Gly Glu Lys Pro Gly Leu
 435 440 445

Lys Leu Trp Leu Arg Met Glu Asp Ala Arg Arg Gly Gly Arg Pro Arg
 450 455 460

Asp Asn Gln Ala Ile Glu Phe Leu Phe Gln Leu Gly Arg Ala Ala Glu
 465 470 475 480

Glu Val Ala Gln Glu Met Val Ala Leu Gly Leu Val Cys Glu Ala Asp
 485 490 495

Tyr Gln Pro Val Ala Arg Ala Val Arg Glu Arg Val Ala Ala Ile Gln
 500 505 510

Arg Lys Arg Lys Leu Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro
 515 520 525

Glu Pro Gly Pro Pro Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro
 530 535 540

Ser Val Phe Pro Pro Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln
 545 550 555 560

Pro Phe Leu Phe Arg His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys
 565 570 575

Glu Thr Asp Gly Tyr Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp
 580 585 590

Pro Ala Leu Gln Pro Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser
 595 600 605

His Leu Cys Leu Pro Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly
 610 615 620

Pro Gly Ser Asp Phe Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala
 625 630 635 640

Ser Gly Leu Ser Asp Val Gly Glu Gly Met Gly Gln Met Arg Arg Pro
 645 650 655

Pro Gly Arg Asn Leu Arg Arg Arg Pro Arg Ser Arg Leu Arg Val Thr
 660 665 670

Ser Val Ser Asp Gln Asn Asp Arg Val Val Glu Cys Gln Leu Gln Thr
 675 680 685
 His Asn Ser Lys Met Val Thr Phe Arg Phe Asp Leu Asp Gly Asp Ser
 690 695 700
 Pro Glu Glu Ile Ala Ala Ala Met Val Tyr Asn Glu Phe Ile Leu Pro
 705 710 715 720
 Ser Glu Arg Asp Gly Phe Leu Arg Arg Ile Arg Glu Ile Ile Gln Arg
 725 730 735
 Val Glu Thr Leu Leu Lys Arg Asp Thr Gly Pro Met Glu Ala Ala Glu
 740 745 750
 Asp Thr Leu Ser Pro Gln Glu Glu Pro Ala Pro Leu Pro Ala Leu Pro
 755 760 765
 Val Pro Leu Pro Asp Pro Ser Asn Glu Glu Leu Gln Ser Ser Thr Ser
 770 775 780
 Leu Glu His Arg Ser Trp Thr Ala Phe Ser Thr Ser Ser Ser Ser Pro
 785 790 795 800
 Gly Thr Pro Leu Ser Pro Gly Asn Pro Phe Ser Pro Gly Thr Pro Ile
 805 810 815
 Ser Pro Gly Pro Ile Phe Pro Ile Thr Ser Pro Pro Cys His Pro Ser
 820 825 830
 Pro Ser Pro Phe Ser Pro Ile Ser Ser Gln Val Ser Ser Asn Pro Ser
 835 840 845
 Pro His Pro Thr Ser Ser Pro Leu Pro Phe Ser Ser Ser Thr Pro Glu
 850 855 860
 Phe Pro Val Pro Leu Ser Gln Cys Pro Trp Ser Ser Leu Pro Thr Thr
 865 870 875 880
 Ser Pro Pro Thr Phe Ser Pro Thr Cys Ser Gln Val Thr Leu Ser Ser
 885 890 895
 Pro Phe Phe Pro Pro Cys Pro Ser Thr Ser Ser Phe Pro Ser Thr Thr
 900 905 910
 Ala Ala Pro Leu Leu Ser Leu Ala Ser Ala Phe Ser Leu Ala Val Met
 915 920 925

Thr Val Ala Gln Ser Leu Ser Pro Ser Pro Gly Leu Leu Ser Gln Ser
 930 935 940

Pro Pro Ala Pro Pro Ser Pro Leu Pro Ser Leu Pro Leu Pro Pro Pro
 945 950 955 960

Val Ala Pro Gly Gly Gln Glu Ser Pro Ser Pro His Thr Ala Glu Val
 965 970 975

Glu Ser Glu Ala Ser Pro Pro Pro Ala Arg Pro Leu Pro Gly Glu Ala
 980 985 990

Arg Leu Ala Pro Ile Ser Glu Glu Gly Lys Pro Gln Leu Val Gly Arg
 995 1000 1005

Phe Gln Val Thr Ser Ser Lys Glu Pro Ala Glu Pro Leu Pro Leu Gln
 1010 1015 1020

Pro Thr Ser Pro Thr Leu Ser Gly Ser Pro Lys Pro Ser Thr Pro Gln
 1025 1030 1035 1040

Leu Thr Ser Glu Ser Ser Asp Thr Glu Asp Ser Ala Gly Gly Gly Pro
 1045 1050 1055

Glu Thr Arg Glu Ala Leu Ala Glu Ser Asp Arg Ala Ala Glu Gly Leu
 1060 1065 1070

Gly Ala Gly Val Glu Glu Glu Gly Asp Asp Gly Lys Glu Pro Gln Val
 1075 1080 1085

Gly Gly Ser Pro Gln Pro Leu Ser His Pro Ser Pro Val Trp Met Asn
 1090 1095 1100

Tyr Ser Tyr Ser Ser Leu Cys Leu Ser Ser Glu Glu Ser Glu Ser Ser
 1105 1110 1115 1120

Gly Glu Glu Glu Phe Trp Ala Glu Leu Gln Ser Leu Arg Gln Lys His
 1125 1130 1135

Leu Ser Glu Val Glu Thr Leu Gln Thr Leu Gln Lys Lys Glu Ile Glu
 1140 1145 1150

Asp Leu Tyr Ser Arg Leu Gly Lys Gln Pro Pro Pro Gly Ile Val Ala
 1155 1160 1165

Pro Ala Ala Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser
 1170 1175 1180

Phe Pro Thr Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly
 1185 1190 1195 1200

Pro Gly Ile Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser
 1205 1210 1215

Gln Glu Gln Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly
 1220 1225 1230

Arg Met

<210> 37

<211> 1231

<212> PRT

<213> Homo sapiens

<400> 37

Met Ser Gln Thr Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu
 1 5 10 15

Gly Thr Ala Gly Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg
 20 25 30

Arg Phe Ser Gly Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser
 35 40 45

Arg Arg Ser Ser Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro
 50 55 60

Ala Ser Pro Ala Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro
 65 70 75 80

Gly Pro Ala Arg Ser Pro Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly
 85 90 95

Thr Trp Thr Glu Gly Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg
 100 105 110

Pro Glu Leu Pro Asp Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu
 115 120 125

Arg Val Pro Glu Ala Val Ala Leu Glu Arg Arg Arg Glu Gln Glu Glu
 130 135 140

Lys Glu Asp Met Glu Thr Gln Ala Val Ala Thr Ser Pro Asp Gly Arg
 145 150 155 160

Tyr Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val
 165 170 175
 Tyr Arg Gly Leu Asp Thr Asp Thr Thr Val Glu Val Ala Trp Cys Glu
 180 185 190
 Leu Gln Thr Arg Lys Leu Ser Arg Ala Glu Arg Gln Arg Phe Ser Glu
 195 200 205
 Glu Val Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe
 210 215 220
 Tyr Asp Ser Trp Lys Ser Val Leu Arg Gly Gln Val Cys Ile Val Leu
 225 230 235 240
 Val Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Arg Arg
 245 250 255
 Phe Arg Glu Met Lys Pro Arg Val Leu Gln Arg Trp Ser Arg Gln Ile
 260 265 270
 Leu Arg Gly Leu His Phe Leu His Ser Arg Val Pro Pro Ile Leu His
 275 280 285
 Arg Asp Leu Lys Cys Asp Asn Val Phe Ile Thr Gly Pro Thr Gly Ser
 290 295 300
 Val Lys Ile Gly Asp Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe
 305 310 315 320
 Ala Lys Ser Val Ile Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr
 325 330 335
 Glu Glu Lys Tyr Asp Glu Ala Val Asp Val Tyr Ala Phe Gly Met Cys
 340 345 350
 Met Leu Glu Met Ala Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn
 355 360 365
 Ala Ala Gln Ile Tyr Arg Lys Val Thr Ser Gly Arg Lys Pro Asn Ser
 370 375 380
 Phe His Lys Val Lys Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys
 385 390 395 400
 Ile Arg Thr Asp Lys Asn Glu Arg Phe Thr Ile Gln Asp Leu Leu Ala
 405 410 415

His Ala Phe Phe Arg Glu Glu Arg Gly Val His Val Glu Leu Ala Glu
420 425 430

Glu Asp Asp Gly Glu Lys Pro Gly Leu Lys Leu Trp Leu Arg Met Glu
435 440 445

Asp Ala Arg Arg Gly Gly Arg Pro Arg Asp Asn Gln Ala Ile Glu Phe
450 455 460

Leu Phe Gln Leu Gly Arg Asp Ala Ala Glu Glu Val Ala Gln Glu Met
465 470 475 480

Val Ala Leu Gly Leu Val Cys Glu Ala Asp Tyr Gln Pro Val Ala Arg
485 490 495

Ala Val Arg Glu Arg Val Ala Ala Ile Gln Arg Lys Arg Glu Lys Leu
500 505 510

Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro Glu Pro Gly Pro Pro
515 520 525

Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro Ser Val Phe Pro Pro
530 535 540

Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Pro Phe Leu Phe Arg
545 550 555 560

His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys Glu Thr Asp Gly Tyr
565 570 575

Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp Pro Ala Leu Gln Pro
580 585 590

Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser His Leu Cys Leu Pro
595 600 605

Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly Pro Gly Ser Asp Phe
610 615 620

Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala Ser Gly Leu Ser Asp
625 630 635 640

Val Gly Glu Gly Met Gly Gln Met Arg Arg Pro Pro Gly Arg Asn Leu
645 650 655

Arg Arg Arg Pro Arg Ser Arg Leu Arg Val Thr Ser Val Ser Asp Gln
660 665 670

Asn Asp Arg Val Val Glu Cys Gln Leu Gln Thr His Asn Ser Lys Met
 675 680 685
 Val Thr Phe Arg Phe Asp Leu Asp Gly Asp Ser Pro Glu Glu Ile Ala
 690 695 700
 Ala Ala Met Val Tyr Asn Glu Phe Ile Leu Pro Ser Glu Arg Asp Gly
 705 710 715 720
 Phe Leu Arg Arg Ile Arg Glu Ile Ile Gln Arg Val Glu Thr Leu Leu
 725 730 735
 Lys Arg Asp Thr Gly Pro Met Glu Ala Ala Glu Asp Thr Leu Ser Pro
 740 745 750
 Gln Glu Glu Pro Ala Pro Leu Pro Ala Leu Pro Val Pro Leu Pro Asp
 755 760 765
 Pro Ser Asn Glu Glu Leu Gln Ser Ser Thr Ser Leu Glu His Arg Ser
 770 775 780
 Trp Thr Ala Phe Ser Thr Ser Ser Ser Ser Pro Gly Thr Pro Leu Ser
 785 790 795 800
 Pro Gly Asn Pro Phe Ser Pro Gly Thr Pro Ile Ser Pro Gly Pro Ile
 805 810 815
 Phe Pro Ile Thr Ser Pro Pro Cys His Pro Ser Pro Ser Pro Phe Ser
 820 825 830
 Pro Ile Ser Ser Gln Val Ser Ser Asn Pro Ser Pro His Pro Thr Ser
 835 840 845
 Ser Pro Leu Pro Phe Ser Ser Ser Thr Pro Glu Phe Pro Val Pro Leu
 850 855 860
 Ser Gln Cys Pro Trp Ser Ser Leu Pro Thr Thr Ser Pro Pro Thr Phe
 865 870 875 880
 Ser Pro Thr Cys Ser Gln Val Thr Leu Ser Ser Pro Phe Phe Pro Pro
 885 890 895
 Cys Pro Ser Thr Ser Ser Phe Pro Ser Thr Thr Ala Ala Pro Leu Leu
 900 905 910
 Ser Leu Ala Ser Ala Phe Ser Leu Ala Val Met Thr Val Ala Gln Ser
 915 920 925

Leu Leu Ser Pro Ser Pro Gly Leu Leu Ser Gln Ser Pro Pro Ala Pro
 930 935 940

Pro Ser Pro Leu Pro Ser Leu Pro Leu Pro Pro Pro Val Ala Pro Gly
 945 950 955 960

Gly Gln Glu Ser Pro Ser Pro His Thr Ala Glu Val Glu Ser Glu Ala
 965 970 975

Ser Pro Pro Pro Ala Arg Pro Leu Pro Gly Glu Ala Arg Leu Ala Pro
 980 985 990

Ile Ser Glu Glu Gly Lys Pro Gln Leu Val Gly Arg Phe Gln Val Thr
 995 1000 1005

Ser Ser Lys Glu Pro Ala Glu Pro Leu Pro Leu Gln Pro Thr Ser Pro
 1010 1015 1020

Thr Leu Ser Gly Ser Pro Lys Pro Ser Thr Pro Gln Leu Thr Ser Glu
 1025 1030 1035 1040

Ser Ser Asp Thr Glu Asp Ser Ala Gly Gly Gly Pro Glu Thr Arg Glu
 1045 1050 1055

Ala Leu Ala Glu Ser Asp Arg Ala Ala Glu Gly Leu Gly Ala Gly Val
 1060 1065 1070

Glu Glu Glu Gly Asp Asp Gly Lys Glu Pro Gln Val Gly Gly Ser Pro
 1075 1080 1085

Gln Pro Leu Ser His Pro Ser Pro Val Trp Met Asn Tyr Ser Tyr Ser
 1090 1095 1100

Ser Leu Cys Leu Ser Ser Glu Glu Ser Glu Ser Ser Gly Glu Asp Glu
 1105 1110 1115 1120

Glu Phe Trp Ala Glu Leu Gln Ser Leu Arg Gln Lys His Leu Ser Glu
 1125 1130 1135

Val Glu Thr Leu Gln Thr Leu Gln Lys Lys Glu Ile Glu Asp Leu Tyr
 1140 1145 1150

Ser Arg Leu Gly Lys Gln Pro Pro Pro Gly Ile Val Ala Pro Ala Ala
 1155 1160 1165

Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser Phe Pro Thr
 1170 1175 1180

Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly Pro Gly Ile
 1185 1190 1195 1200

Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser Gln Glu Gln
 1205 1210 1215

Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly Arg Met
 1220 1225 1230

<210> 38

<211> 670

<212> PRT

<213> Homo sapiens

<400> 38

Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
 1 5 10 15

Phe Leu Ser Pro Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20 25 30

Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
 35 40 45

Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50 55 60

Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65 70 75 80

Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85 90 95

Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100 105 110

Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115 120 125

Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
 130 135 140

Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
 145 150 155 160

Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu

165										170					175				
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu				
			180					185					190						
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu				
		195					200					205							
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp				
	210					215					220								
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp				
225					230					235					240				
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys				
				245					250						255				
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu				
			260					265					270						
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu				
		275					280					285							
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met				
	290					295					300								
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys				
305					310					315					320				
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln				
				325					330					335					
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys				
			340					345					350						
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp				
		355					360					365							
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile				
	370					375					380								
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp				
385					390					395					400				
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala				
				405					410					415					
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr				

				420					425					430			
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala		
		435					440					445					
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys		
	450					455					460						
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln		
465					470					475					480		
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu		
				485					490					495			
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu		
			500					505					510				
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu		
	515						520					525					
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly		
	530					535					540						
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp		
545					550				555						560		
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg		
				565					570					575			
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln		
			580					585					590				
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser		
		595					600					605					
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser		
	610					615					620						
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu		
625					630					635					640		
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp		
				645					650					655			
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Gly	Gly				
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 <212> PRT
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 Ser Pro Pro Ala Pro Val Pro Lys Asn Gly Ser Ser Ser Asp Ser Ser
 . 20 25 30

 Val Gly Glu Lys Leu Gly Ala Ala Val Ala Asp Ser Gly Ile Gly Arg
 35 40 45

 Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp Ser Arg
 50 55 60

 Gly Ala Ala Ala Thr Thr Thr Pro Thr Glu His Arg Phe Phe Arg Arg
 65 70 75 80

 Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro Gly Leu
 85 90 95

 Pro Leu Ser Ile Pro Gln Pro Ser Val Pro Ala Val Val Pro Gln Ser
 100 105 110

 Ala Pro Pro Glu Pro His Arg Glu Glu Thr Leu Thr Ala Thr Val Ala
 115 120 125

 Ser Gln Val Ser Gln Gln Pro Ser Ala Ala Ala Ser Pro Gly Glu Gln
 130 135 140

 Ala Val Val Gly Ser Ala Thr Ala Thr Val Pro Ser Ser Thr Ser Lys
 145 150 155 160

 Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu Glu Pro
 165 170 175

 Pro Pro Ser Arg Ser Gly Ser Gly Ser Gly Gly Ala Ser Ala Lys Glu
 180 185 190

 Pro Gln Glu Glu Arg Asn Gln Gln Gln Asp Asp Ile Glu Glu Leu Glu
 195 200 205

 Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
 210 215 220

Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
 225 230 235 240

Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
 245 250 255

Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
 260 265 270

Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
 275 280 285

Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met
 290 295 300

Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys
 305 310 315 320

Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln
 325 330 335

Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys
 340 345 350

Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp
 355 360 365

Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile
 370 375 380

Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp
 385 390 395 400

Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala
 405 410 415

Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr
 420 425 430

Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala
 435 440 445

Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys
 450 455 460

Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln
 465 470 475 480

Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu			
	485	490	495
Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu			
	500	505	510
Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu			
	515	520	525
Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly			
	530	535	540
Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp			
	545	550	555
Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg			
	565	570	575
Glu Glu Gln Glu Lys Arg Lys Gln Glu Glu Ser Ser Phe Lys Gln Gln			
	580	585	590
Asn Glu Gln Gln Ala Ser Val Ser Gln Ala Gly Ile Gln Pro Leu Ser			
	595	600	605
Val Ala Ser Thr Gly Ile Pro Thr Ala Pro Thr Thr Ser Ala Ser Val			
	610	615	620
Ser Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln			
	625	630	635
Leu Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val			
	645	650	655
Asp Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser			
	660	665	670
Gln Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Ile			
	675	680	685
Gly Thr Ala Pro Gly His Thr Val Ser Ser Ile Gln Ala Gln Ser Gln			
	690	695	700
Pro His Gly Val Tyr Pro Pro Ser Ser Met Ala Gln Gly Gln Asn Gln			
	705	710	715
Gly Gln Pro Ser Ser Ser Leu Ala Gly Val Leu Ser Ser Gln Pro Val			
	725	730	735

Gln His Pro Gln Gln Gln Gly Ile Gln Pro Thr Val Pro Pro Gln Gln
 740 745 750

Ala Val Gln Tyr Ser Leu Pro Gln Ala Ala Ser Ser Ser Glu Gly Thr
 755 760 765

Val Gln Pro Val Ser Gln Pro Gln Val Ser Ala Gly Thr Gln Ser Ser
 770 775 780

Thr Gln Gly Val Ser Gln Ala Ala Pro Pro Glu Gln Thr Pro Ile Thr
 785 790 795 800

Gln Ser Gln Pro Thr Gln Pro Val Pro Leu Val Ser Ser Val Asp Ser
 805 810 815

Ala His Ser Asp Val Ala Ser Gly Met Ser Asp Gly Asn Glu Asn Ala
 820 825 830

Pro Ser Ser Ser Gly Arg His Glu Gly Arg Thr Thr Lys Arg His Tyr
 835 840 845

Arg Lys Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro
 850 855 860

Lys Leu Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu
 865 870 875 880

Cys Gln Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp
 885 890 895

Leu Asp Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn
 900 905 910

Asp Phe Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Ala Gln Val Arg
 915 920 925

Glu Ile Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val
 930 935 940

Glu Pro Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp
 945 950 955 960

Tyr Gly Phe Pro Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro
 965 970 975

Ile Ala Val Ser Ser Met Pro Gln Gln Ile Gly Val Pro Thr Ser Ser
 980 985 990

Leu Thr Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro
 995 1000 1005
 Val Pro Glu Ser Arg Leu Arg Glu Ser Lys Ile Phe Thr Ser Glu Ile
 1010 1015 1020
 Pro Asp Pro Val Ala Ala Ser Thr Ser Gln Gly Pro Gly Met Asn Leu
 1025 1030 1035 1040
 Ser His Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu
 1045 1050 1055
 Lys His Gly Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe
 1060 1065 1070
 Asn His Pro Gly Pro Thr Phe Ser Pro Phe Leu Thr Ser Ile Ala Gly
 1075 1080 1085
 Val Gln Thr Val Ala Ala Ser Thr Pro Ser Val Ser Val Pro Ile Thr
 1090 1095 1100
 Ser Ser Pro Leu Asn Asp Ile Ser Thr Ser Val Met Gln Ser Glu Gly
 1105 1110 1115 1120
 Ala Leu Pro Thr Asp Lys Gly Ile Gly Gly Val Thr Thr Ser Thr Gly
 1125 1130 1135
 Val Val Ala Ser Gly Gly Leu Thr Thr Leu Ser Val Ser Glu Thr Pro
 1140 1145 1150
 Thr Leu Ser Ser Ala Val Ser Ser Ser Thr Ala Pro Ala Val Val Thr
 1155 1160 1165
 Val Ser Thr Thr Ser Gln Pro Val Gln Ala Phe Thr Ser Gly Ser Ile
 1170 1175 1180
 Ala Ser Ser Thr Gly Ser Phe Pro Ser Gly Thr Phe Ser Thr Thr Thr
 1185 1190 1195 1200
 Gly Thr Thr Val Ser Ser Val Ala Val Pro Asn Ala Lys Pro Pro Thr
 1205 1210 1215
 Val Leu Leu Gln Gln Val Ala Gly Asn Thr Ala Gly Val Ala Ile Val
 1220 1225 1230
 Thr Ser Val Ser Thr Thr Thr Pro Phe Pro Ala Met Ala Ser Gln Pro
 1235 1240 1245

Ser Leu Pro Leu Gly Ser Ser Thr Ser Ala Pro Thr Leu Ala Glu Thr
 1250 1255 1260

Val Val Val Ser Ala His Ser Leu Asp Lys Ala Ser His Ser Ser Thr
 1265 1270 1275 1280

Ala Gly Leu Gly Leu Ser Phe Cys Ala Pro Ser Ser Ser Ser Ser Ser
 1285 1290 1295

Gly Thr Ala Val Ser Ser Ser Val Ser Gln Pro Gly Ile Val His Pro
 1300 1305 1310

Leu Val Ile Ser Ser Ala Ile Ala Ser Thr Pro Val Leu Pro Gln Pro
 1315 1320 1325

Ala Val Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Asn Ile Pro
 1330 1335 1340

Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu
 1345 1350 1355 1360

Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr
 1365 1370 1375

His Cys Pro Glu Met Asp Ala Asp Thr Gln Ser Lys Ala Pro Gly Ile
 1380 1385 1390

Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu
 1395 1400 1405

His Ser Ser Ser Gly Thr Gln His Ala Ser Val Ser Leu Glu Thr Pro
 1410 1415 1420

Leu Val Val Glu Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val Ala
 1425 1430 1435 1440

Pro Ser Lys Leu Met Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr
 1445 1450 1455

Asn Leu Pro Leu Gly Thr Ala Gly Met Pro Val Met Pro Val Gly Thr
 1460 1465 1470

Pro Gly Gln Val Ser Thr Pro Gly Thr His Ala Ser Ala Pro Ala Ser
 1475 1480 1485

Thr Ala Thr Gly Ala Lys Pro Gly Thr Thr Pro Pro Lys Pro Ser Leu
 1490 1495 1500

Thr Lys Thr Val Val Pro Pro Val Gly Thr Glu Leu Ser Ala Gly Thr
 1505 1510 1515 1520

Val Pro Cys Glu Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Ile Gln
 1525 1530 1535

Thr Gln Gln Pro Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu
 1540 1545 1550

Ser Pro Glu Thr Ile Pro Val Thr Pro Ala Val Gly Pro Leu Ser Thr
 1555 1560 1565

Met Ser Ser Thr Ala Val Thr Glu Ala Gly Ser Gln Pro Gln Lys Asp
 1570 1575 1580

Gly Thr Glu Val His Val Thr Ala Ser Ser Ser Gly Ala Gly Val Val
 1585 1590 1595 1600

Lys Met Gly Arg Phe Gln Val Ser Val Thr Met Asp Asp Ala Gln Lys
 1605 1610 1615

Glu Arg Lys Asn Arg Ser Glu Asp Thr Lys Ser Val His Phe Glu Ser
 1620 1625 1630

Ser Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr
 1635 1640 1645

Leu Val Lys Pro Glu Pro Asn Gly Ile Thr Val Ser Gly Ile Ser Leu
 1650 1655 1660

Asp Val Pro Asp Ser Thr His Arg Thr Pro Thr Pro Glu Ala Lys Ser
 1665 1670 1675 1680

Glu Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr
 1685 1690 1695

Ala Asn Lys Val Gly Arg Phe Ser Val Ser Arg Thr Glu Asp Lys Val
 1700 1705 1710

Thr Glu Leu Lys Lys Glu Gly Pro Val Thr Ser Pro Phe Arg Asp Ser
 1715 1720 1725

Glu Gln Thr Val Ile Pro Ala Ala Ile Pro Lys Lys Glu Lys Pro Glu
 1730 1735 1740

Leu Ala Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Leu Glu Ala
 1745 1750 1755 1760

Ala Phe Leu Ser Arg Gly Gly Glu Asp Gly Ser Gly Ser Pro His Ser
 1765 1770 1775
 Pro Pro His Leu Cys Ser Lys Ser Leu Pro Ile Gln Thr Leu Ser Gln
 1780 1785 1790
 Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu
 1795 1800 1805
 Ser Asp Ile Glu Asp Glu Asp Leu Arg Leu Glu Leu Arg Arg Leu Arg
 1810 1815 1820
 Glu Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His
 1825 1830 1835 1840
 Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val
 1845 1850 1855
 Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr
 1860 1865 1870
 Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys
 1875 1880 1885
 Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Gly Thr Ser Val
 1890 1895 1900
 Leu Asn Pro Gln Gln Thr Leu His Pro Pro Gly Asn Thr Pro Glu Thr
 1905 1910 1915 1920
 Gly His Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp
 1925 1930 1935
 Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Ile Pro Ser
 1940 1945 1950
 Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Gly
 1955 1960 1965
 Thr Val Ser Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser
 1970 1975 1980
 Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn
 1985 1990 1995 2000
 Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly
 2005 2010 2015

His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro
 2020 2025 2030

Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Met Gly Gly Ser Thr Pro
 2035 2040 2045

Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met
 2050 2055 2060

Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Ala Pro Phe Gly Thr Gln
 2065 2070 2075 2080

Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln
 2085 2090 2095

Pro Val Gly Thr Thr Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln
 2100 2105 2110

Lys Ser Ile Ser Asn Pro Pro Ser Ser Asn Leu Arg Thr Thr
 2115 2120 2125

<210> 40

<211> 2382

<212> PRT

<213> Homo sapiens

<400> 40

Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
 1 5 10 15

Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20 25 30

Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
 35 40 45

Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50 55 60

Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65 70 75 80

Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85 90 95

Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100 105 110

Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115 120 125

Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
 130 135 140

Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
 145 150 155 160

Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
 165 170 175

Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
 180 185 190

Pro Gln Glu Glu Arg Ser Gln Gln Gln Asp Asp Ile Glu Glu Leu Glu
 195 200 205

Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
 210 215 220

Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
 225 230 235 240

Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
 245 250 255

Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
 260 265 270

Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
 275 280 285

Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met
 290 295 300

Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys
 305 310 315 320

Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln
 325 330 335

Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys
 340 345 350

Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp
 355 360 365

Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile			
370	375	380	
Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp			
385	390	395	400
Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala			
405	410	415	
Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr			
420	425	430	
Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala			
435	440	445	
Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys			
450	455	460	
Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln			
465	470	475	480
Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu			
485	490	495	
Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu			
500	505	510	
Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu			
515	520	525	
Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly			
530	535	540	
Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp			
545	550	555	560
Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg			
565	570	575	
Glu Glu Gln Glu Lys Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln			
580	585	590	
Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser			
595	600	605	
Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser			
610	615	620	

Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu	625	630	635	640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp	645	650	655	
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln	660	665	670	
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly	675	680	685	
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro	690	695	700	
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	Gln	Ser	Gln	Gly	705	710	715	720
Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser	Ser	Gln	Pro	Ile	725	730	735	
Gln	His	Pro	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln	740	745	750	
Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala	755	760	765	
Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro	770	775	780	
Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu	Pro	Val	Ser	Gln	Pro	Val	Pro	Thr	785	790	795	800
Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro	Val	Ala	Thr	Gln	Pro	Ser	Val	Val	805	810	815	
Pro	Val	His	Ser	Gly	Ala	His	Phe	Leu	Pro	Val	Gly	Gln	Pro	Leu	Pro	820	825	830	
Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro	Val	Ser	Gln	Ile	Pro	Ile	Ser	Thr	835	840	845	
Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser	Ser	Leu	Pro	Ile	Thr	850	855	860	
Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr	Leu	Ala	Ser	Ser	Ala	865	870	875	880

Thr Thr Ala Ala Ile Pro Gly Val Ser Thr Val Val Pro Ser Gln Leu	885	890	895
Pro Thr Leu Leu Gln Pro Val Thr Gln Leu Pro Ser Gln Val His Pro	900	905	910
Gln Leu Leu Gln Pro Ala Val Gln Ser Met Gly Ile Pro Ala Asn Leu	915	920	925
Gly Gln Ala Ala Glu Val Pro Leu Ser Ser Gly Asp Val Leu Tyr Gln	930	935	940
Gly Phe Pro Pro Arg Leu Pro Pro Gln Tyr Pro Gly Asp Ser Asn Ile	945	950	955
Ala Pro Ser Ser Asn Val Ala Ser Val Cys Ile His Ser Thr Val Leu	965	970	975
Ser Pro Pro Met Pro Thr Glu Val Leu Ala Thr Pro Gly Tyr Phe Pro	980	985	990
Thr Val Val Gln Pro Tyr Val Glu Ser Asn Leu Leu Val Pro Met Gly	995	1000	1005
Gly Val Gly Gly Gln Val Gln Val Ser Gln Pro Gly Ser Leu Ala	1010	1015	1020
Gln Ala Pro Thr Thr Ser Ser Gln Gln Ala Val Leu Glu Ser Thr Gln	1025	1030	1035
Gly Val Ser Gln Val Ala Pro Ala Glu Pro Val Ala Val Ala Gln Pro	1045	1050	1055
Gln Ala Thr Gln Pro Thr Thr Leu Ala Ser Ser Val Asp Ser Ala His	1060	1065	1070
Ser Asp Val Ala Ser Gly Met Ser Asp Gly Asn Glu Asn Val Pro Ser	1075	1080	1085
Ser Ser Gly Arg His Glu Gly Arg Thr Thr Lys Arg His Tyr Arg Lys	1090	1095	1100
Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro Lys Leu	1105	1110	1115
Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu Cys Gln	1125	1130	1135

Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp Leu Asp
 1140 1145 1150

Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn Asp Phe
 1155 1160 1165

Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Asp Gln Val Arg Glu Ile
 1170 1175 1180

Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val Glu Pro
 1185 1190 1195 1200

Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp Tyr Gly
 1205 1210 1215

Phe Ser Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro Ile Pro
 1220 1225 1230

Ala Ser Ser Met Pro Gln Gln Ile Gly Ile Pro Thr Ser Ser Leu Thr
 1235 1240 1245

Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro Val Pro
 1250 1255 1260

Glu Ser Arg Leu Arg Glu Ser Lys Val Phe Pro Ser Glu Ile Thr Asp
 1265 1270 1275 1280

Thr Val Ala Ala Ser Thr Ala Gln Ser Pro Gly Met Asn Leu Ser His
 1285 1290 1295

Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu Arg Arg
 1300 1305 1310

Ala Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe Ser His
 1315 1320 1325

Thr Gly Pro Thr Phe Pro Val Val Pro Pro Phe Leu Ser Ser Ile Ala
 1330 1335 1340

Gly Val Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser
 1345 1350 1355 1360

Ser Pro Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr
 1365 1370 1375

Val Pro Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val
 1380 1385 1390

Val Thr Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val
 1395 1400 1405

Leu Ser Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile
 1410 1415 1420

Ser Thr Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile
 1425 1430 1435 1440

Val Val Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr
 1445 1450 1455

Ser Ala Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro
 1460 1465 1470

Ala Val Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr
 1475 1480 1485

Leu Thr Ser Val Ser Thr Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln
 1490 1495 1500

Leu Ser Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu
 1505 1510 1515 1520

Thr Val Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser
 1525 1530 1535

Thr Thr Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser Ser
 1540 1545 1550

Pro Gly Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His
 1555 1560 1565

Pro Leu Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln
 1570 1575 1580

Ala Ala Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile
 1585 1590 1595 1600

Pro Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr
 1605 1610 1615

Leu Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His
 1620 1625 1630

Thr His Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly
 1635 1640 1645

Ile Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser
 1650 1655 1660

Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr
 1665 1670 1675 1680

Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala
 1685 1690 1695

Val Ala Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro
 1700 1705 1710

Pro Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro Val Thr Pro Val
 1715 1720 1725

Val Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr Thr Thr Ser Gly
 1730 1735 1740

Val Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro
 1745 1750 1755 1760

Val Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu
 1765 1770 1775

Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro
 1780 1785 1790

Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Ile
 1795 1800 1805

Ile Thr Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr
 1810 1815 1820

Ala Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val
 1825 1830 1835 1840

Lys Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys
 1845 1850 1855

Met Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu
 1860 1865 1870

Gly Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser
 1875 1880 1885

Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu
 1890 1895 1900

Val Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp			
1905	1910	1915	1920
Val Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp			
	1925	1930	1935
Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr Ala			
	1940	1945	1950
Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr			
	1955	1960	1965
Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu			
	1970	1975	1980
Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu			
1985	1990	1995	2000
Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala			
	2005	2010	2015
Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser			
	2020	2025	2030
Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln			
	2035	2040	2045
Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu			
	2050	2055	2060
Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg			
2065	2070	2075	2080
Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His			
	2085	2090	2095
Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val			
	2100	2105	2110
Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr			
	2115	2120	2125
Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys			
	2130	2135	2140
Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val			
2145	2150	2155	2160

Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser
 2165 2170 2175
 Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Asp
 2180 2185 2190
 Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser
 2195 2200 2205
 Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Val Gly Ala
 2210 2215 2220
 Thr Val Asn Ser Gln Ala Ala Gln Pro Pro Ala Met Thr Ser
 2225 2230 2235 2240
 Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn
 2245 2250 2255
 Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly
 2260 2265 2270
 His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro
 2275 2280 2285
 Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser Ala Pro
 2290 2295 2300 2310
 Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met
 2305 2310 2315 2320
 Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln
 2325 2330 2335
 Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln
 2340 2345 2350
 Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln
 2355 2360 2365
 Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg Thr Thr
 2370 2375 2380

<210> 41
 <211> 251
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: S_TKc,
Serine/Threonine protein kinases domain sequence

<400> 41

Val Leu Gly Lys Gly Ala Phe Gly Lys Val Tyr Leu Ala Arg Asp Lys
1 5 10 15

Lys Thr Gly Lys Leu Val Ala Ile Lys Val Ile Lys Lys Glu Lys Leu
20 25 30

Lys Lys Lys Lys Arg Glu Arg Ile Leu Arg Glu Ile Lys Ile Leu Lys
35 40 45

Lys Leu Asp His Pro Asn Ile Val Lys Leu Tyr Asp Val Phe Glu Asp
50 55 60

Asp Asp Lys Leu Tyr Leu Val Met Glu Tyr Cys Glu Gly Gly Asp Leu
65 70 75 80

Phe Asp Leu Leu Lys Lys Arg Gly Arg Leu Ser Glu Asp Glu Ala Arg
85 90 95

Phe Tyr Ala Arg Gln Ile Leu Ser Ala Leu Glu Tyr Leu His Ser Gln
100 105 110

Gly Ile Ile His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Ser
115 120 125

Asp Gly His Val Lys Leu Ala Asp Phe Gly Leu Ala Lys Gln Leu Asp
130 135 140

Ser Gly Gly Thr Leu Leu Thr Thr Phe Val Gly Thr Pro Glu Tyr Met
145 150 155 160

Ala Pro Glu Val Leu Leu Gly Lys Gly Tyr Gly Lys Ala Val Asp Ile
165 170 175

Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Pro Pro
180 185 190

Phe Pro Gly Asp Asp Gln Leu Leu Ala Leu Phe Lys Lys Ile Gly Lys
195 200 205

Pro Pro Pro Pro Phe Pro Pro Pro Glu Trp Lys Ile Ser Pro Glu Ala
210 215 220

Lys Asp Leu Ile Lys Lys Leu Leu Val Lys Asp Pro Glu Lys Arg Leu
 225 230 235 240

Thr Ala Glu Glu Ala Leu Glu His Pro Phe Phe
 245 250

<210> 42

<211> 251

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pkinase,
 Protein kinase domain sequence

<400> 42

Lys Leu Gly Ser Gly Ala Phe Gly Lys Val Tyr Lys Gly Lys His Lys
 1 5 10 15

Asp Thr Gly Glu Ile Val Ala Ile Lys Ile Leu Lys Lys Arg Ser Leu
 20 25 30

Ser Glu Lys Lys Lys Arg Phe Leu Arg Glu Ile Gln Ile Leu Arg Arg
 35 40 45

Leu Ser His Pro Asn Ile Val Arg Leu Leu Gly Val Phe Glu Glu Asp
 50 55 60

Asp His Leu Tyr Leu Val Met Glu Tyr Met Glu Gly Gly Asp Leu Phe
 65 70 75 80

Asp Tyr Leu Arg Arg Asn Gly Leu Leu Leu Ser Glu Lys Glu Ala Lys
 85 90 95

Lys Ile Ala Leu Gln Ile Leu Arg Gly Leu Glu Tyr Leu His Ser Arg
 100 105 110

Gly Ile Val His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Glu
 115 120 125

Asn Gly Thr Val Lys Ile Ala Asp Phe Gly Leu Ala Arg Lys Leu Glu
 130 135 140

Ser Ser Ser Tyr Glu Lys Leu Thr Thr Phe Val Gly Thr Pro Glu Tyr
 145 150 155 160

Met Ala Pro Glu Val Leu Glu Gly Arg Gly Tyr Ser Ser Lys Val Asp

165	170	175
Val Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Leu		
180	185	190
Pro Phe Pro Gly Ile Asp Pro Leu Glu Glu Leu Phe Arg Ile Lys Glu		
195	200	205
Arg Pro Arg Leu Arg Leu Pro Leu Pro Pro Asn Cys Ser Glu Glu Leu		
210	215	220
Lys Asp Leu Ile Lys Lys Cys Leu Asn Lys Asp Pro Glu Lys Arg Pro		
225	230	235
Thr Ala Lys Glu Ile Leu Asn His Pro Trp Phe		
245	250	

<210> 43

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TyrKc,
Tyrosine kinase domain sequence

<400> 43

Leu Thr Leu Gly Lys Lys Leu Gly Glu Gly Ala Phe Gly Glu Val Tyr		
1	5	10
Lys Gly Thr Leu Lys Gly Lys Gly Gly Val Glu Val Glu Val Ala Val		
20	25	30
Lys Thr Leu Lys Glu Asp Ala Ser Glu Gln Gln Ile Glu Glu Phe Leu		
35	40	45
Arg Glu Ala Arg Leu Met Arg Lys Leu Asp His Pro Asn Ile Val Lys		
50	55	60
Leu Leu Gly Val Cys Thr Glu Glu Glu Pro Leu Met Ile Val Met Glu		
65	70	75
Tyr Met Glu Gly Gly Asp Leu Leu Asp Tyr Leu Arg Lys Asn Arg Pro		
85	90	95
Lys Glu Leu Ser Leu Ser Asp Leu Leu Ser Phe Ala Leu Gln Ile Ala		
100	105	110

Arg Gly Met Glu Tyr Leu Glu Ser Lys Asn Phe Val His Arg Asp Leu
 115 120 125

Ala Ala Arg Asn Cys Leu Val Gly Glu Asn Lys Thr Val Lys Ile Ala
 130 135 140

Asp Phe Gly Leu Ala Arg Asp Leu Tyr Asp Asp Asp Tyr Tyr Arg Lys
 145 150 155 160

Lys Lys Ser Pro Arg Leu Pro Ile Arg Trp Met Ala Pro Glu Ser Leu
 165 170 175

Lys Asp Gly Lys Phe Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val
 180 185 190

Leu Leu Trp Glu Ile Phe Thr Leu Gly Glu Ser Pro Tyr Pro Gly Met
 195 200 205

Ser Asn Glu Glu Val Leu Glu Tyr Leu Lys Lys Gly Tyr Arg Leu Pro
 210 215 220

Gln Pro Pro Asn Cys Pro Asp Glu Ile Tyr Asp Leu Met Leu Gln Cys
 225 230 235 240

Trp Ala Glu Asp Pro Glu Asp Arg Pro Thr Phe Ser Glu Leu
 245 250

<210> 44

<211> 314

<212> PRT

<213> Homo sapiens

<400> 44

Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30

Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45

Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln

65		70		75		80
Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly						
	85			90		95
Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys						
	100		105		110	
Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys						
	115		120		125	
Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu						
	130		135		140	
Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser						
145		150		155		160
Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His						
	165		170		175	
Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr						
	180		185		190	
Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu						
	195		200		205	
Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala						
	210		215		220	
Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr						
225		230		235		240
Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile						
	245		250		255	
Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met						
	260		265		270	
Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu						
	275		280		285	
Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu						
	290		295		300	
Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu						
305		310				

<210> 45
 <211> 233
 <212> PRT
 <213> Marmota marmota

<400> 45
 Pro Met Tyr Leu Phe Leu Gly Asn Leu Ser Phe Leu Asp Leu Ser Phe
 1 5 10 15
 Thr Ser Ser Ile Pro Gln Leu Leu His Asn Leu Ser Gly Arg Asp Lys
 20 25 30
 Thr Ile Ser Tyr Val Gly Cys Val Val Gln Leu Phe Leu Phe Leu Gly
 35 40 45
 Leu Gly Gly Val Glu Cys Leu Leu Leu Ala Val Ala Tyr Asp Arg Val
 50 55 60
 Ala Val Cys Lys Pro Leu His Tyr Thr Val Ile Met Ser Ser Arg Leu
 65 70 75 80
 Cys Leu Gly Leu Val Ser Val Ala Trp Gly Cys Gly Met Ala Asn Ser
 85 90 95
 Leu Val Met Ser Pro Val Thr Leu Gln Leu Pro Arg Cys Gly His Asn
 100 105 110
 Lys Val Asp His Phe Leu Cys Glu Met Pro Ala Ile Arg Met Ala Cys
 115 120 125
 Val Asn Thr Val Ala Ile Glu Gly Thr Val Phe Val Leu Ala Val Gly
 130 135 140
 Ile Val Leu Ser Pro Leu Val Phe Ile Leu Val Ser Tyr Gly His Ile
 145 150 155 160
 Val Arg Ala Val Phe Arg Ile Gln Ser Ser Ser Gly Arg His Arg Ile
 165 170 175
 Phe Asn Thr Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly
 180 185 190
 Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ser Arg Ser Ser Gln Asp
 195 200 205
 Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu
 210 215 220

Asn Pro Phe Ile Tyr Ser Leu Arg Asn
 225 230

<210> 46
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 46
 Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30
 Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45
 Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60
 Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80
 Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95
 Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110
 Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125
 Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140
 Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160
 Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175
 Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190
 Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
 195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
 210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
 245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
 260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 47

<211> 320

<212> PRT

<213> Homo sapiens

<400> 47

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80

Val Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly

85	90	95
Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys 100	105	110
Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys 115	120	125
Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met 130	135	140
Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys 145	150	155
Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His 165	170	175
Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr 180	185	190
Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu 195	200	205
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala 210	215	220
Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr 225	230	235
Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile 245	250	255
Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys 260	265	270
Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu 275	280	285
Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu 290	295	300
Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser 305	310	315
		320

<210> 48
 <211> 320
 <212> PRT
 <213> Homo sapiens

 <400> 48
 Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15

 Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30

 Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45

 Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

 Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80

 Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95

 Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110

 Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125

 Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140

 Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160

 Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175

 Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190

 Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
 195 200 205

 Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
 210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
 245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
 260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 49

<211> 253

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 7tm_1, 7
 transmembrane receptor domain sequence

<400> 49

Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg
 1 5 10 15

Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu
 20 25 30

Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly
 35 40 45

Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Gly Ala Leu Phe Val
 50 55 60

Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile Asp
 65 70 75 80

Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg Thr

85										90										95										
Pro	Arg	Arg	Ala	Lys	Val	Leu	Ile	Leu	Leu	Val	Trp	Val	Leu	Ala	Leu															
			100					105						110																
Leu	Leu	Ser	Leu	Pro	Pro	Leu	Leu	Phe	Ser	Trp	Leu	Arg	Thr	Val	Glu															
		115					120					125																		
Glu	Gly	Asn	Thr	Thr	Val	Cys	Leu	Ile	Asp	Phe	Pro	Glu	Glu	Ser	Val															
	130						135					140																		
Lys	Arg	Ser	Tyr	Val	Leu	Leu	Ser	Thr	Leu	Val	Gly	Phe	Val	Leu	Pro															
145					150					155				160																
Leu	Leu	Val	Ile	Leu	Val	Cys	Tyr	Thr	Arg	Ile	Leu	Arg	Thr	Leu	Arg															
			165					170					175																	
Lys	Arg	Ala	Arg	Ser	Gln	Arg	Ser	Leu	Lys	Arg	Arg	Ser	Ser	Ser	Glu															
		180				185						190																		
Arg	Lys	Ala	Ala	Lys	Met	Leu	Leu	Val	Val	Val	Val	Val	Phe	Val	Leu															
		195				200						205																		
Cys	Trp	Leu	Pro	Tyr	His	Ile	Val	Leu	Leu	Leu	Asp	Ser	Leu	Cys	Leu															
	210					215					220																			
Leu	Ser	Ile	Trp	Arg	Val	Leu	Pro	Thr	Ala	Leu	Leu	Ile	Thr	Leu	Trp															
225				230					235				240																	
Leu	Ala	Tyr	Val	Asn	Ser	Cys	Leu	Asn	Pro	Ile	Ile	Tyr																		
			245					250																						

<210> 50

<211> 315

<212> PRT

<213> Homo sapiens

<400> 50

Met	Ala	Gln	Leu	Gly	Gly	Ala	Ala	Asn	Arg	Ala	Pro	Thr	Ala	Ser	Leu
1			5						10				15		

Ala	Pro	Thr	Ser	Gln	Ser	Leu	Arg	Cys	Ala	Pro	Gln	Pro	Arg	Pro	Ser
		20					25						30		

Arg	Ala	Asp	Thr	Gly	Ser	Leu	Gly	Arg	Tyr	Trp	Gly	Lys	Ala	Ala	Ala
	35						40					45			

Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala
 50 55 60

Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu
 65 70 75 80

Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu
 85 90 95

Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro
 100 105 110

Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val
 115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp
 130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
 145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
 165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His
 180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly
 195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala
 210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser
 225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu
 245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val
 260 265 270

Gly Ala Thr Ala Val Glu Thr Ser Arg Arg Val Ala Ala Ser Arg Thr
 275 280 285

Lys Ala Lys Asp Thr Ala Gly Ser Arg Val Ala Gln Met His Ser Leu
 290 295 300

Phe Arg His Leu Phe Pro Ser Phe Gln Asp Arg
 305 310 315

<210> 51
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: domain
 sequence

<400> 51
 Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
 1 5 10 15
 Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp Lys
 20 25 30

<210> 52
 <211> 2062
 <212> PRT
 <213> Homo sapiens

<400> 52
 Met Pro Lys Ser Gly Phe Thr Lys Pro Ile Gln Ser Glu Asn Ser Asp
 1 5 10 15
 Ser Asp Ser Asn Met Val Glu Lys Pro Tyr Gly Arg Lys Ser Lys Asp
 20 25 30
 Lys Ile Ala Ser Tyr Ser Lys Thr Pro Lys Ile Glu Arg Ser Asp Val
 35 40 45
 Ser Lys Glu Met Lys Glu Lys Ser Ser Met Lys Arg Lys Leu Pro Phe
 50 55 60
 Thr Ile Ser Pro Ser Arg Asn Glu Glu Arg Asp Ser Asp Thr Asp Ser
 65 70 75 80
 Asp Pro Gly His Thr Ser Glu Asn Trp Gly Glu Arg Leu Ile Ser Ser
 85 90 95

Tyr Arg Thr Tyr Ser Glu Lys Glu Gly Pro Glu Lys Lys Lys Thr Lys
 100 105 110

Lys Glu Ala Gly Asn Lys Lys Ser Thr Pro Val Ser Ile Leu Phe Gly
 115 120 125

Tyr Pro Leu Ser Glu Arg Lys Gln Met Ala Leu Leu Met Gln Met Thr
 130 135 140

Ala Arg Asp Asn Ser Pro Asp Ser Thr Pro Asn His Pro Ser Gln Thr
 145 150 155 160

Thr Pro Ala Gln Lys Lys Thr Pro Ser Ser Ser Arg Gln Lys Asp
 165 170 175

Lys Val Asn Lys Arg Asn Glu Arg Gly Glu Thr Pro Leu His Met Ala
 180 185 190

Ala Ile Arg Gly Asp Val Lys Gln Val Lys Glu Leu Ile Ser Leu Gly
 195 200 205

Ala Asn Val Asn Val Lys Asp Phe Ala Gly Trp Thr Pro Leu His Glu
 210 215 220

Ala Cys Asn Val Gly Tyr Tyr Asp Val Ala Lys Ile Leu Ile Ala Ala
 225 230 235 240

Gly Ala Asp Val Asn Thr Gln Gly Leu Asp Asp Asp Thr Pro Leu His
 245 250 255

Asp Ser Ala Ser Ser Gly His Arg Asp Ile Val Lys Leu Leu Leu Arg
 260 265 270

His Gly Gly Asn Pro Phe Gln Ala Asn Lys His Gly Glu Arg Pro Val
 275 280 285

Asp Val Ala Glu Thr Glu Glu Leu Glu Leu Leu Lys Arg Glu Val
 290 295 300

Pro Leu Ser Asp Asp Asp Glu Ser Tyr Thr Asp Ser Glu Glu Ala Gln
 305 310 315 320

Ser Val Asn Pro Ser Ser Val Asp Glu Asn Ile Asp Ser Glu Thr Glu
 325 330 335

Lys Asp Ser Leu Ile Cys Glu Ser Lys Gln Ile Leu Pro Ser Lys Thr
 340 345 350

Pro Leu Pro Ser Ala Leu Asp Glu Tyr Glu Phe Lys Asp Asp Asp Asp
 355 360 365

Glu Glu Ile Asn Lys Met Ile Asp Asp Arg His Ile Leu Arg Lys Glu
 370 375 380

Gln Arg Lys Glu Asn Glu Pro Glu Ala Glu Lys Thr His Leu Phe Ala
 385 390 395 400

Lys Gln Glu Lys Ala Phe Tyr Pro Lys Ser Phe Lys Ser Lys Lys Gln
 405 410 415

Lys Pro Ser Arg Val Leu Tyr Ser Ser Thr Glu Ser Ser Asp Glu Glu
 420 425 430

Ala Leu Gln Asn Lys Lys Ile Ser Thr Ser Cys Ser Val Ile Pro Glu
 435 440 445

Thr Ser Asn Ser Asp Met Gln Thr Lys Lys Glu Tyr Val Val Ser Gly
 450 455 460

Glu His Lys Gln Lys Gly Lys Val Lys Arg Lys Leu Lys Asn Gln Asn
 465 470 475 480

Lys Asn Lys Glu Asn Gln Glu Leu Lys Gln Glu Lys Glu Gly Lys Glu
 485 490 495

Asn Thr Arg Ile Thr Asn Leu Thr Val Asn Thr Gly Leu Asp Cys Ser
 500 505 510

Glu Lys Thr Arg Glu Glu Gly Asn Phe Arg Lys Ser Phe Ser Pro Lys
 515 520 525

Asp Asp Thr Ser Leu His Leu Phe His Ile Ser Thr Gly Lys Ser Pro
 530 535 540

Lys His Ser Cys Gly Leu Ser Glu Lys Gln Ser Thr Pro Leu Lys Gln
 545 550 555 560

Glu His Thr Lys Thr Cys Leu Ser Pro Gly Ser Ser Glu Met Ser Leu
 565 570 575

Gln Pro Asp Leu Val Arg Tyr Asp Asn Thr Glu Ser Glu Phe Leu Pro
 580 585 590

Glu Ser Ser Ser Val Lys Ser Cys Lys His Lys Glu Lys Ser Lys His
 595 600 605

Gln Lys Asp Phe His Leu Glu Phe Gly Glu Lys Ser Asn Ala Lys Ile
 610 615 620

Lys Asp Glu Asp His Ser Pro Thr Phe Glu Asn Ser Asp Cys Thr Leu
 625 630 635 640

Lys Lys Met Asp Lys Glu Gly Lys Thr Leu Lys Lys His Lys Leu Lys
 645 650 655

His Lys Glu Arg Glu Lys Glu Lys His Lys Lys Glu Ile Glu Gly Glu
 660 665 670

Lys Glu Lys Tyr Lys Thr Lys Asp Ser Ala Lys Glu Leu Gln Arg Ser
 675 680 685

Val Glu Phe Asp Arg Glu Phe Trp Lys Glu Asn Phe Phe Lys Ser Asp
 690 695 700

Glu Thr Glu Asp Leu Phe Leu Asn Met Glu His Glu Ser Leu Thr Leu
 705 710 715 720

Glu Lys Lys Ser Lys Leu Glu Lys Asn Ile Lys Asp Asp Lys Ser Thr
 725 730 735

Lys Glu Lys His Val Ser Lys Glu Arg Asn Phe Lys Glu Glu Arg Asp
 740 745 750

Lys Ile Lys Lys Glu Ser Glu Lys Ser Phe Arg Glu Glu Lys Ile Lys
 755 760 765

Asp Leu Lys Glu Glu Arg Glu Asn Ile Pro Thr Asp Lys Asp Ser Glu
 770 775 780

Phe Thr Ser Leu Gly Met Ser Ala Ile Glu Glu Ser Ile Gly Leu His
 785 790 795 800

Leu Val Glu Lys Glu Ile Asp Ile Glu Lys Gln Glu Lys His Ile Lys
 805 810 815

Glu Ser Lys Glu Lys Pro Glu Lys Arg Ser Gln Ile Lys Glu Lys Asp
 820 825 830

Ile Glu Lys Met Glu Arg Lys Thr Phe Glu Lys Glu Lys Lys Ile Lys
 835 840 845

His Glu His Lys Ser Glu Lys Asp Lys Leu Asp Leu Ser Glu Cys Val
 850 855 860

Asp Lys Ile Lys Glu Lys Asp Lys Leu Tyr Ser His His Thr Glu Lys
 865 870 875 880

Cys His Lys Glu Gly Glu Lys Ser Lys Asn Thr Ala Ala Ile Lys Lys
 885 890 895

Thr Asp Asp Arg Glu Lys Ser Arg Glu Lys Met Asp Arg Lys His Asp
 900 905 910

Lys Glu Lys Pro Glu Lys Glu Arg His Leu Ala Glu Ser Lys Glu Lys
 915 920 925

His Leu Met Glu Lys Lys Asn Lys Gln Ser Asp Asn Ser Glu Tyr Ser
 930 935 940

Lys Ser Glu Lys Gly Lys Asn Lys Glu Lys Asp Arg Glu Leu Asp Lys
 945 950 955 960

Lys Glu Lys Ser Arg Asp Lys Glu Ser Ile Asn Ile Thr Asn Ser Lys
 965 970 975

His Ile Gln Glu Glu Lys Lys Ser Ser Ile Val Asp Gly Asn Lys Ala
 980 985 990

Gln His Glu Lys Pro Leu Ser Leu Lys Glu Lys Thr Lys Asp Glu Pro
 995 1000 1005

Leu Lys Thr Pro Asp Gly Lys Glu Lys Asp Lys Lys Asp Lys Asp Ile
 1010 1015 1020

Asp Arg Tyr Lys Glu Arg Asp Lys His Lys Asp Lys Ile Gln Ile Asn
 1025 1030 1035 1040

Ser Leu Leu Lys Leu Lys Ser Glu Ala Asp Lys Pro Lys Pro Lys Ser
 1045 1050 1055

Ser Pro Ala Ser Lys Asp Thr Arg Pro Lys Glu Lys Arg Leu Val Asn
 1060 1065 1070

Asp Asp Leu Met Gln Thr Ser Phe Glu Arg Met Leu Ser Leu Lys Asp
 1075 1080 1085

Leu Glu Ile Glu Gln Trp His Lys Lys His Lys Glu Lys Ile Lys Gln
 1090 1095 1100

Lys Glu Lys Glu Arg Leu Arg Asn Arg Asn Cys Leu Glu Leu Lys Ile
 1105 1110 1115 1120

Lys Asp Lys Glu Lys Thr Lys His Thr Pro Thr Glu Ser Lys Asn Lys
 1125 1130 1135
 Glu Leu Thr Arg Ser Lys Ser Ser Glu Val Thr Asp Ala Tyr Thr Lys
 1140 1145 1150
 Glu Lys Gln Pro Lys Asp Ala Val Ser Asn Arg Ser Gln Ser Val Asp
 1155 1160 1165
 Thr Lys Asn Val Met Thr Leu Gly Lys Ser Ser Phe Val Ser Asp Asn
 1170 1175 1180
 Ser Leu Asn Arg Ser Pro Arg Ser Glu Asn Glu Lys Pro Gly Leu Ser
 1185 1190 1195 1200
 Ser Arg Ser Val Ser Met Ile Ser Val Ala Ser Ser Glu Asp Ser Cys
 1205 1210 1215
 His Thr Thr Val Thr Thr Pro Arg Pro Pro Val Glu Tyr Asp Ser Asp
 1220 1225 1230
 Phe Met Leu Glu Ser Ser Glu Ser Gln Met Ser Phe Ser Gln Ser Pro
 1235 1240 1245
 Phe Leu Ser Ile Ala Lys Ser Pro Ala Leu His Glu Arg Glu Leu Asp
 1250 1255 1260
 Ser Leu Ala Asp Leu Pro Glu Arg Ile Lys Pro Pro Tyr Ala Asn Arg
 1265 1270 1275 1280
 Leu Ser Thr Ser His Leu Arg Ser Ser Ser Val Glu Asp Val Lys Leu
 1285 1290 1295
 Ile Ile Ser Glu Gly Arg Pro Thr Ile Glu Val Arg Arg Cys Ser Met
 1300 1305 1310
 Pro Ser Val Ile Cys Glu His Thr Lys Gln Phe Gln Thr Ile Ser Glu
 1315 1320 1325
 Glu Ser Asn Gln Gly Ser Leu Leu Thr Val Pro Gly Asp Thr Ser Pro
 1330 1335 1340
 Ser Pro Lys Pro Glu Val Phe Ser Asn Val Pro Glu Arg Asp Leu Ser
 1345 1350 1355 1360
 Asn Val Ser Asn Ile His Ser Ser Phe Ala Thr Ser Pro Thr Gly Ala
 1365 1370 1375

Ser Asn Ser Lys Tyr Val Ser Ala Asp Arg Asn Leu Ile Lys Asn Thr
 1380 1385 1390
 Ala Pro Val Asn Thr Val Met Asp Ser Pro Val His Leu Glu Pro Ser
 1395 1400 1405
 Ser Gln Val Gly Val Ile Gln Asn Lys Ser Trp Glu Met Pro Val Asp
 1410 1415 1420
 Arg Leu Glu Thr Leu Ser Thr Arg Asp Phe Ile Cys Pro Asn Ser Asn
 1425 1430 1435 1440
 Ile Pro Asp Gln Glu Ser Ser Leu Gln Ser Phe Cys Asn Ser Glu Asn
 1445 1450 1455
 Lys Val Leu Lys Glu Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu
 1460 1465 1470
 Leu Pro Gly Asn Ser Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro
 1475 1480 1485
 Gln Gln Pro Cys Ser Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser
 1490 1495 1500
 Ile Ser Lys His Met Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly
 1505 1510 1515 1520
 Ile Leu Gln Gln Lys Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp
 1525 1530 1535
 Thr Asp Asn Glu Ser Thr Lys Asp Thr Glu Asn Thr Phe Val Leu Gly
 1540 1545 1550
 Asp Val Gln Lys Thr Asp Ala Phe Val Pro Val Tyr Ser Asp Ser Thr
 1555 1560 1565
 Ile Gln Glu Ala Ser Pro Asn Phe Glu Lys Ala Tyr Thr Leu Pro Val
 1570 1575 1580
 Leu Pro Ser Glu Lys Asp Phe Asn Gly Ser Asp Ala Ser Thr Gln Leu
 1585 1590 1595 1600
 Asn Thr His Tyr Ala Phe Ser Lys Leu Thr Tyr Lys Ser Ser Ser Gly
 1605 1610 1615
 His Glu Val Glu Asn Ser Thr Thr Asp Thr Gln Val Ile Ser His Glu
 1620 1625 1630

Lys Glu Asn Lys Leu Glu Ser Leu Val Leu Thr His Leu Ser Arg Cys
 1635 1640 1645
 Asp Ser Asp Leu Cys Glu Met Asn Ala Gly Met Pro Lys Gly Asn Leu
 1650 1655 1660
 Asn Glu Gln Asp Pro Lys His Cys Pro Glu Ser Glu Lys Cys Leu Leu
 1665 1670 1675 1680
 Ser Ile Glu Asp Glu Glu Ser Gln Gln Ser Ile Leu Ser Ser Leu Glu
 1685 1690 1695
 Asn His Ser Gln Gln Ser Thr Gln Pro Glu Met His Lys Tyr Gly Gln
 1700 1705 1710
 Leu Val Lys Val Glu Leu Glu Glu Asn Ala Glu Asp Asp Lys Thr Glu
 1715 1720 1725
 Asn Gln Ile Pro Gln Arg Met Thr Arg Asn Lys Ala Asn Thr Met Ala
 1730 1735 1740
 Asn Gln Ser Lys Gln Ile Leu Ala Ser Cys Thr Leu Leu Ser Glu Lys
 1745 1750 1755 1760
 Asp Ser Glu Ser Ser Ser Pro Arg Gly Arg Ile Arg Leu Thr Glu Asp
 1765 1770 1775
 Asp Asp Pro Gln Ile His His Pro Arg Lys Arg Lys Val Ser Arg Val
 1780 1785 1790
 Pro Gln Pro Val Gln Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys
 1795 1800 1805
 Thr Gln Gln Ser Leu Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu
 1810 1815 1820
 Ile Gln Pro Tyr Ser Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu
 1825 1830 1835 1840
 His Ile Arg Lys Lys Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val
 1845 1850 1855
 Ile Pro Gln Ala Pro Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly
 1860 1865 1870
 Ser Tyr Leu Leu Asp Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr
 1875 1880 1885

Ile Thr Pro Pro Pro Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg
 1890 1895 1900

Gln Gln Glu Val Val Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu
 1905 1910 1915 1920

Arg Glu Lys Leu Ile Val Ser Asn Glu Gln Glu Val Leu Arg Val His
 1925 1930 1935

Tyr Arg Ala Ala Arg Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala
 1940 1945 1950

Cys Thr Val Leu Leu Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser
 1955 1960 1965

Gln Ser Asp Asp Ser Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg
 1970 1975 1980

Gln Phe Met Ser Trp Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu
 1985 1990 1995 2000

Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn
 2005 2010 2015

Ala Val Gln Arg Leu Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro
 2020 2025 2030

Ala Thr Tyr Lys Ser Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val
 2035 2040 2045

Pro Leu Val Asp Val Asn Asp Asp Phe Glu Leu Thr Pro Ile
 2050 2055 2060

<210> 53
 <211> 399
 <212> PRT
 <213> Homo sapiens

<400> 53
 Met Pro Gln Ser Ser Ala Lys Asp Tyr Leu Gly Glu Tyr Cys Ile Leu
 1 5 10 15

Lys Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu Ala
 20 25 30

Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gly Ile Gln Pro
 35 40 45

Glu	Ala	Ala	Glu	Pro	Lys	Pro	Thr	Ala	Glu	Ala	Pro	Lys	Ala	Pro	Arg	50	55	60	
Val	Glu	Glu	Ile	Pro	Gln	Arg	Met	Thr	Arg	Asn	Arg	Ala	Gln	Met	Leu	65	70	75	80
Ala	Asn	Gln	Ser	Lys	Gln	Gly	Pro	Pro	Pro	Ser	Glu	Lys	Glu	Cys	Ala	85	90	95	
Pro	Thr	Pro	Ala	Pro	Val	Thr	Arg	Ala	Lys	Ala	Arg	Gly	Ser	Glu	Asp	100	105	110	
Asp	Asp	Ala	Gln	Ala	Gln	His	Pro	Arg	Lys	Arg	Arg	Phe	Gln	Arg	Ser	115	120	125	
Thr	Gln	Gln	Leu	Gln	Gln	Gln	Leu	Asn	Thr	Ser	Thr	Gln	Gln	Thr	Arg	130	135	140	
Glu	Val	Ile	Gln	Gln	Thr	Leu	Ala	Ala	Ile	Val	Asp	Ala	Ile	Lys	Leu	145	150	155	160
Asp	Ala	Ile	Glu	Pro	Tyr	His	Ser	Asp	Arg	Ala	Asn	Pro	Tyr	Phe	Glu	165	170	175	
Tyr	Leu	Gln	Ile	Arg	Lys	Lys	Ile	Glu	Glu	Lys	Arg	Lys	Ile	Leu	Cys	180	185	190	
Cys	Ile	Thr	Pro	Gln	Ala	Pro	Gln	Trp	Tyr	Ala	Gln	Tyr	Val	Thr	Tyr	195	200	205	
Thr	Gly	Ser	Tyr	Leu	Leu	Asp	Gly	Lys	Pro	Leu	Ser	Lys	Leu	His	Ile	210	215	220	
Pro	Val	Ile	Ala	Pro	Pro	Pro	Ser	Leu	Ala	Glu	Pro	Leu	Lys	Glu	Leu	225	230	235	240
Phe	Arg	Gln	Gln	Glu	Ala	Val	Arg	Gly	Lys	Leu	Arg	Leu	Gln	His	Ser	245	250	255	
Ile	Glu	Arg	Glu	Lys	Leu	Ile	Val	Ser	Cys	Glu	Gln	Glu	Ile	Leu	Arg	260	265	270	
Val	His	Cys	Arg	Ala	Ala	Arg	Thr	Ile	Ala	Asn	Gln	Ala	Val	Pro	Phe	275	280	285	
Ser	Thr	Cys	Thr	Met	Leu	Leu	Asp	Ser	Glu	Val	Tyr	Asn	Met	Pro	Leu	290	295	300	

Glu Ser Gln Gly Asp Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala
 305 310 315 320

Arg Gln Phe Ile Ser Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg
 325 330 335

Met Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu
 340 345 350

Asn Ala Val Gln Arg Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp
 355 360 365

Pro Ala Gly His Lys Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr
 370 375 380

Val Pro Met Val Asp Val Asn Asp Asp Phe Val Leu Leu Pro Ala
 385 390 395

<210> 54
 <211> 366
 <212> PRT
 <213> Homo sapiens

<400> 54
 Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro
 1 5 10 15

Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp
 20 25 30

Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly
 35 40 45

Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala
 50 55 60

Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro
 65 70 75 80

Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu
 85 90 95

Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser
 100 105 110

Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser

115	120	125
Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr		
130	135	140
Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys		
145	150	155 160
Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala		
165	170	175
Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala		
180	185	190
Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala		
195	200	205
Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly		
210	215	220
Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp		
225	230	235 240
Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr		
245	250	255
Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys		
260	265	270
Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr		
275	280	285
Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp		
290	295	300
Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp		
305	310	315 320
Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His		
325	330	335
Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr		
340	345	350
Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr		
355	360	365

<210> 55
 <211> 366
 <212> PRT
 <213> Homo sapiens

<400> 55
 Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro
 1 5 10 15

 Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp
 20 25 30

 Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly
 35 40 45

 Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala
 50 55 60

 Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro
 65 70 75 80

 Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu
 85 90 95

 Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser
 100 105 110

 Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser
 115 120 125

 Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr
 130 135 140

 Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys
 145 150 155 160

 Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala
 165 170 175

 Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala
 180 185 190

 Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala
 195 200 205

 Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly
 210 215 220

Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp
 225 230 235 240

Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr
 245 250 255

Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys
 260 265 270

Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr
 275 280 285

Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp
 290 295 300

Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp
 305 310 315 320

Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His
 325 330 335

Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr
 340 345 350

Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr
 355 360 365

<210> 56

<211> 601

<212> PRT

<213> Homo sapiens

<400> 56

Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu Leu Pro Gly Asn Ser
 1 5 10 15

Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro Gln Gln Pro Cys Ser
 20 25 30

Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser Ile Ser Lys His Met
 35 40 45

Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly Ile Leu Gln Gln Lys
 50 55 60

Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp Thr Asp Asn Glu Ser
 65 70 75 80

Thr Lys Asp Thr Glu Asn Thr Phe Val Leu Gly Asp Val Gln Lys Thr
 85 90 95
 Asp Ala Phe Val Pro Val Tyr Ser Asp Ser Thr Ile Gln Glu Ala Ser
 100 105 110
 Pro Asn Phe Glu Lys Ala Tyr Thr Leu Pro Val Leu Pro Ser Glu Lys
 115 120 125
 Asp Phe Asn Gly Ser Asp Ala Ser Thr Gln Leu Asn Thr His Tyr Ala
 130 135 140
 Phe Ser Lys Leu Thr Tyr Lys Ser Ser Ser Gly His Glu Val Glu Asn
 145 150 155 160
 Ser Thr Thr Asp Thr Gln Val Ile Ser His Glu Lys Glu Asn Lys Leu
 165 170 175
 Glu Ser Leu Val Leu Thr His Leu Ser Arg Cys Asp Ser Asp Leu Cys
 180 185 190
 Glu Met Asn Ala Gly Met Pro Lys Gly Asn Leu Asn Glu Gln Asp Pro
 195 200 205
 Lys His Cys Pro Glu Ser Glu Lys Cys Leu Leu Ser Ile Glu Asp Glu
 210 215 220
 Glu Ser Gln Gln Ser Ile Leu Ser Ser Leu Glu Asn His Ser Gln Gln
 225 230 235 240
 Ser Thr Gln Pro Glu Met His Lys Tyr Gly Gln Leu Val Lys Val Glu
 245 250 255
 Leu Glu Glu Asn Ala Glu Asp Asp Lys Thr Glu Asn Gln Ile Pro Gln
 260 265 270
 Arg Met Thr Arg Asn Lys Ala Asn Thr Met Ala Asn Gln Ser Lys Gln
 275 280 285
 Ile Leu Ala Ser Cys Thr Leu Leu Ser Glu Lys Asp Ser Glu Ser Ser
 290 295 300
 Ser Pro Arg Gly Arg Ile Arg Leu Thr Glu Asp Asp Asp Pro Gln Ile
 305 310 315 320
 His His Pro Arg Lys Arg Lys Val Ser Arg Val Pro Gln Pro Val Gln
 325 330 335

Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys Thr Gln Gln Ser Leu
340 345 350

Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu Ile Gln Pro Tyr Ser
355 360 365

Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu His Ile Arg Lys Lys
370 375 380

Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val Ile Pro Gln Ala Pro
385 390 395 400

Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly Ser Tyr Leu Leu Asp
405 410 415

Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr Ile Thr Pro Pro Pro
420 425 430

Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu Val Val
435 440 445

Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys Leu Ile
450 455 460

Val Ser Asn Glu Gln Glu Val Leu Arg Val His Tyr Arg Ala Ala Arg
465 470 475 480

Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala Cys Thr Val Leu Leu
485 490 495

Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser Gln Ser Asp Asp Ser
500 505 510

Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Met Ser Trp
515 520 525

Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu Lys Thr Cys Leu Leu
530 535 540

Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg Leu
545 550 555 560

Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro Ala Thr Tyr Lys Ser
565 570 575

Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val Pro Leu Val Asp Val
580 585 590

Asn Asp Asp Phe Glu Leu Thr Pro Ile
 595 600

<210> 57
 <211> 999
 <212> PRT
 <213> Homo sapiens

<400> 57
 Met Ile Ser Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Ile Ile Lys
 1 5 10 15
 Val Ser Lys Asp Glu Lys Ser Leu Lys Arg Ile Lys Gly Met Asn Lys
 20 25 30
 Asp Ile Ser Arg Ser Phe Gln Glu Glu Lys Asp Cys Ser Asn Thr Ala
 35 40 45
 Glu Lys Glu Lys Ser Leu Lys Glu Lys Ser Ser Lys Glu Glu Lys Leu
 50 55 60
 Arg Leu Tyr Lys Glu Glu Arg Lys Thr Pro Lys Arg Gln Lys Asp Lys
 65 70 75 80
 Glu Pro Lys Asp Lys Arg Lys Asp Thr Gly Ala Ala Asp Gly Val Thr
 85 90 95
 Asp Lys Lys Glu Lys Val Leu Glu Lys His Lys Glu Lys Lys Val Lys
 100 105 110
 Glu Tyr Gln Lys Asn Lys Lys Asn Lys Gln Lys Leu Pro Glu Lys Ala
 115 120 125
 Glu Lys Lys Gln Ser Ala Glu Asp Lys Ala Asn Ser Lys His Lys Glu
 130 135 140
 Lys Ser Asp Lys Glu Tyr Ser Lys Glu Arg Lys Ser Leu Arg Ser Ala
 145 150 155 160
 Asp Met Glu Lys Ser Leu Leu Glu Lys Leu Glu Glu Ala Leu His Glu
 165 170 175
 Tyr Arg Asp Asp Ser Ser Asp Lys Ile Thr Thr Thr Glu Arg Asp Ser
 180 185 190
 Gln Glu Arg Lys Val Pro Glu Glu Lys Gly Arg Asp Tyr Lys Glu Gly

195	200	205
Gly Ser Arg Lys Asp Thr	Gly Gln Tyr Glu Lys	Asp Phe Leu Glu Met
210	215	220
Val Ala Tyr Gly Val Ser Tyr Asn Met Lys Ala Val Ile Glu Asp Arg		
225	230	235 240
Leu Asn Lys Thr Val Glu Leu Phe Ser Thr Glu Lys Lys Asp Lys Asn		
	245	250 255
Asp Ser Glu Arg Glu Thr Ser Lys Lys Ile Glu Lys Glu Leu Lys Pro		
	260	265 270
Tyr Gly Ser Arg Thr Lys Gln Lys Pro Thr Ala Arg Asp Lys Asp Ser		
	275	280 285
Pro Pro Arg Ala Leu Lys Asp Lys Ser Arg Asp Glu Asp Pro Arg Leu		
	290	295 300
Arg Lys Ala Lys Leu Lys Glu Lys Phe Lys Asp Ser Ala Glu Lys Glu		
305	310	315 320
Lys Asp Asp Ser Val Lys Met Ser Lys Gly Asp Asp Lys Val Ser Pro		
	325	330 335
Ser Lys Asp Pro Gly Lys Lys Asn Ala Arg Pro Arg Glu Lys Leu Arg		
	340	345 350
Gly Asp Gly Asp Met Met Ile Ile Ser Phe Gln Arg Met Phe Ser Gln		
	355	360 365
Lys Asp Leu Glu Ile Glu Glu Arg His Lys Gly His Lys Glu Arg Met		
	370	375 380
Lys Gln Met Glu Lys Leu Arg His Gln Ser Arg Asp Pro Asn Leu Lys		
385	390	395 400
Glu Arg Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Glu Ile		
	405	410 415
Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys Lys		
	420	425 430
Leu Lys Glu Leu Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Pro Arg		
	435	440 445
Pro Gly Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His Met		

450				455				460							
Lys	Glu	Val	Leu	Pro	Ala	Ser	Pro	Arg	Pro	Asp	Gln	Ser	Arg	Pro	Val
465				470				475				480			
Cys	Pro	Pro	Leu	Arg	Arg	Cys	Cys	Pro	Ala	Ser	Ala	Thr	Arg	Arg	Gly
				485				490				495			
His	Ser	Pro	Ala	Pro	Gly	Arg	His	Arg	Gly	Pro	Ala	Gly	Tyr	Ser	Pro
500								505				510			
His	His	Pro	Pro	Gly	Ala	Gln	Leu	Pro	Gly	Ala	Ala	Gly	Arg	Gly	Leu
515								520				525			
Ile	Gly	Ser	Ala	Ser	Glu	Asn	Pro	Val	Ser	Trp	Pro	Val	Gly	Ser	Glu
530								535				540			
Leu	Leu	Leu	Lys	Ser	Pro	Gln	Arg	Phe	Pro	Glu	Ser	Pro	Glu	Tyr	Phe
545				550				555				560			
Cys	Ser	Ala	Asp	Ser	Leu	His	Ser	Ala	Ala	Pro	Gly	Pro	Phe	Ser	Ala
				565				570				575			
Ser	Glu	Asn	Thr	Leu	Leu	Ile	Ala	Glu	Pro	Gly	Leu	Glu	Asp	Val	Lys
580								585				590			
Asp	Arg	Val	Glu	Ala	Ile	Pro	Ala	Thr	Ile	Ser	Thr	Ser	Glu	Ala	Ala
595								600				605			
Pro	Tyr	Ala	Pro	Pro	Ser	Gly	Leu	Glu	Ser	Phe	Phe	Asn	Asn	Cys	Lys
610				615				620							
Ser	Leu	Pro	Glu	Ser	Leu	Leu	Asp	Met	Ala	Pro	Glu	Ala	Cys	Asn	His
625				630				635				640			
Cys	Gly	Ser	Asp	Ala	Phe	Ala	Gly	Ser	Glu	Asp	Asp	Leu	Asp	Leu	Gly
				645				650				655			
Ser	Phe	Ser	Leu	Pro	Glu	Leu	Pro	Leu	Gln	Thr	Lys	Asp	Val	Pro	Asp
660								665				670			
Val	Glu	Thr	Glu	Pro	Thr	Glu	Glu	Ser	Leu	Ala	Pro	Ser	Glu	Lys	Ile
675								680				685			
Pro	Pro	Gly	Ala	Pro	Val	Val	Leu	Pro	Thr	Glu	Leu	Glu	Pro	Glu	Pro
690				695				700							
Ser	Glu	Glu	Pro	Lys	Leu	Asp	Val	Ala	Leu	Glu	Ala	Thr	Glu	Ala	Glu

705		710		715		720
Ala Val Pro Glu Glu Arg Ala Ser Gly Asp Leu Asp Ser Ser Met Glu						
	725			730		735
Pro Thr Pro Val Arg Pro Glu Gln Cys Gln Leu Gly Ser Arg Asp Gln						
	740			745		750
Gly Ala Glu Ala Glu His Leu Leu Pro Pro Ala Ala Ser Leu Cys Ala						
	755			760		765
Pro Asp Thr Pro Cys Pro Pro Trp Thr Leu Trp His Lys Pro Arg Leu						
	770			775		780
Arg Thr Val Leu Ala Pro Thr Thr Thr Leu Arg Ala Ser Arg Ala Ala						
785		790		795		800
Ala Pro Ala Glu Gly Pro Pro Cys Gly Ile Asp Pro Glu Ala Thr Glu						
	805			810		815
Ser Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg His Ser						
	820			825		830
Thr Gln Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln						
	835			840		845
Gln Thr Leu Ala Thr Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Tyr						
	850			855		860
Pro Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Phe Leu His Ile						
865		870		875		880
Arg Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro						
	885			890		895
Gln Ala Thr Gln Trp Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr						
	900			905		910
Leu Leu Asp Gly Lys Ser Leu Ser Lys Leu His Met Pro Met Ile Ala						
	915			920		925
Pro Pro Pro Ser Leu Arg Ala Ser Ala Thr Arg Thr Ser Gln Cys Ala						
	930			935		940
Thr Gly Ser Thr Pro Ala Ser Ser Ser Pro Gly Ser Met Thr Trp Thr						
945		950		955		960
Thr Ile Gln Pro His Glu Asp Leu Leu Thr Trp Gln Gln His Glu Ala						

965	970	975
Ala Ala Leu Asn Ala Met Gln Arg Met Glu Trp Gln Leu Lys Val Gln		
980	985	990

Lys Leu Asp Pro Ala Gly His
995

<210> 58
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 58															
Gly	Asn	Thr	Pro	Leu	His	Leu	Ala	Ala	Arg	Asn	Gly	His	Leu	Glu	Val
1				5					10					15	

Val	Lys	Leu	Leu	Leu	Glu	Ala	Gly	Ala	Asp	Val	Asn
				20				25			

<210> 59
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 59															
Asp	Gly	Asn	Thr	Pro	Leu	His	Leu	Ala	Ala	Arg	Asn	Gly	His	Leu	Glu
1					5					10				15	

Val	Val	Lys	Leu	Leu	Leu	Glu	Ala	Gly	Ala	Asp	Val	Asn	Ala	Arg	Asp
						20					25				30

Lys

<210> 60
<211> 31

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: ANK, ankyrin
 repeats domain sequence

 <400> 60
 Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
 1 5 10 15

 Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp
 20 25 30

 <210> 61
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: ANK, ankyrin
 repeats domain sequence

 <400> 61
 Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val
 1 5 10 15

 Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn
 20 25

 <210> 62
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: ANK, ankyrin
 repeats domain sequence

 <400> 62
 Asp Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu
 1 5 10 15

 Val Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile
 20 25

<210> 63
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: ANK, ankyrin
 repeats domain sequence

<400> 63
 Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val
 1 5 10 15
 Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn Leu
 20 25

<210> 64
 <211> 287
 <212> PRT
 <213> Homo sapiens

<400> 64
 Met Pro Pro Thr Lys Pro Phe Leu Ala Pro Glu Thr Thr Ser Pro Gly
 1 5 10 15
 Asp Arg Val Glu Thr Pro Val Gly Glu Arg Ala Pro Thr Pro Val Ser
 20 25 30
 Ala Ser Ser Glu Val Ser Pro Glu Ser Gln Glu Asp Ser Glu Thr Pro
 35 40 45
 Ala Glu Glu Asp Ser Gly Ser Glu Gln Pro Pro Asn Ser Val Leu Pro
 50 55 60
 Asp Lys Leu Lys Val Ser Trp Glu Asn Pro Ser Pro Gln Glu Ala Pro
 65 70 75 80
 Ala Ala Glu Ser Ala Glu Ser Ser Gln Ala Pro Cys Ser Glu Thr Ser
 85 90 95
 Glu Ala Ala Pro Arg Glu Gly Gly Lys Pro Pro Thr Pro Pro Pro Lys
 100 105 110
 Ile Leu Ser Glu Lys Leu Lys Ala Ser Met Gly Glu Met Gln Ala Ser
 115 120 125

Gly Pro Pro Ala Pro Gly Thr Val Gln Val Ser Val Asn Gly Met Asp
 130 135 140

Asp Ser Pro Glu Pro Ala Lys Pro Ser Gln Ala Glu Gly Thr Pro Gly
 145 150 155 160

Thr Pro Pro Lys Asp Ala Thr Thr Ser Thr Ala Leu Pro Pro Trp Asp
 165 170 175

Leu Pro Pro Gln Phe His Pro Arg Cys Ser Ser Leu Gly Asp Leu Leu
 180 185 190

Gly Glu Gly Pro Arg His Pro Leu Gln Pro Arg Glu Arg Leu Tyr Arg
 195 200 205

Ala Gln Leu Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu
 210 215 220

Asn Lys Val Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu
 225 230 235 240

Leu Ser Gln Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln
 245 250 255

Glu Met Arg Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg
 260 265 270

Glu Lys Arg Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro
 275 280 285

<210> 65

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Pleckstrin
 homology domain sequence

<400> 65

Ile Val Lys Glu Gly Trp Leu Leu Lys Lys Ser Thr Val Lys Lys Lys
 1 5 10 15

Arg Trp Lys Lys Arg Tyr Phe Phe Leu Phe Asn Asp Val Leu Ile Tyr
 20 25 30

Tyr Lys Asp Lys Lys Lys Ser Tyr Glu Pro Lys Gly Ser Ile Pro Leu

35	40	45
Ser Gly Cys Ser Val Glu Asp Val Pro Asp Ser Glu Phe Lys Arg Pro		
50	55	60
Asn Cys Phe Gln Leu Arg Ser Arg Asp Gly Lys Glu Thr Phe Ile Leu		
65	70	75
Gln Ala Glu Ser Glu Glu Glu Arg Gln Asp Trp Ile Lys Ala Ile Gln		
85	90	95
Ser Ala Ile		

<210> 66
 <211> 103
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Pleckstrin
 homology domain sequence

<400> 66
Val Ile Lys Glu Gly Trp Leu Leu Lys Lys Ser Ser Gly Gly Lys Lys
1 5 10 15
Ser Trp Lys Lys Arg Tyr Phe Val Leu Phe Asn Gly Val Leu Leu Tyr
20 25 30
Tyr Lys Ser Lys Lys Lys Lys Ser Ser Ser Lys Pro Lys Gly Ser Ile
35 40 45
Pro Leu Ser Gly Cys Thr Val Arg Glu Ala Pro Asp Ser Asp Ser Asp
50 55 60
Lys Lys Lys Asn Cys Phe Glu Ile Val Thr Pro Asp Arg Lys Thr Leu
65 70 75 80
Leu Leu Gln Ala Glu Ser Glu Glu Glu Arg Lys Glu Trp Val Glu Ala
85 90 95
Leu Arg Lys Ala Ile Ala Lys
100

<210> 67

<211> 431

<212> PRT

<213> Mus musculus

<400> 67

Met Arg Arg Leu Arg Arg Leu Val His Leu Val Leu Leu Cys Pro Phe
1 5 10 15

Ser Lys Gly Leu Gln Gly Arg Leu Pro Gly Leu Arg Val Lys Tyr Val
20 25 30

Leu Leu Val Trp Leu Gly Ile Phe Val Gly Ser Trp Met Val Tyr Val
35 40 45

His Tyr Ser Ser Tyr Ser Glu Leu Cys Arg Gly His Val Cys Gln Val
50 55 60

Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser Gly Ser Val Cys
65 70 75 80

Gln Asp Leu Cys Glu Leu Gln Lys Val Glu Trp Arg Thr Cys Leu Ser
85 90 95

Ser Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp Gln Asp Lys Glu
100 105 110

Val Thr Ile Lys Cys Gly Ile Glu Glu Ala Leu Asn Ser Lys Ala Trp
115 120 125

Pro Asp Ala Ala Pro Arg Arg Glu Leu Val Leu Phe Asp Lys Pro Thr
130 135 140

Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr Leu Ser Phe Leu
145 150 155 160

Lys Ala Asn Leu Gly Asp Leu Pro Ser Leu Pro Ala Leu Val Asp Gln
165 170 175

Ile Leu Leu Met Ala Asp Phe Asn Lys Asp Ser Arg Val Ser Leu Ala
180 185 190

Glu Ala Lys Ser Val Trp Ala Leu Leu Gln Arg Asn Glu Phe Leu Leu
195 200 205

Leu Leu Ser Leu Gln Glu Lys Glu His Ala Ser Arg Leu Leu Gly Tyr
210 215 220

Cys Gly Asp Leu Tyr Leu Thr Glu Gly Ile Pro His Gly Ser Trp His

225	230	235	240
Gly Ala Val Leu Leu Pro Ala Leu Arg Pro Leu Leu Pro Ser Val Leu			
245	250	255	
His Arg Ala Leu Gln Gln Trp Phe Gly Pro Ala Trp Pro Trp Arg Ala			
260	265	270	
Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu Leu Phe His Gly			
275	280	285	
Ser Tyr Gly Thr Phe Tyr Met Cys Glu Thr Thr Leu Ala Asn Val Gly			
290	295	300	
Tyr Thr Ala Thr Tyr Asp Phe Lys Met Ala Asp Leu Gln Gln Val Ala			
305	310	315	320
Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg His Cys Glu Gln			
325	330	335	
Ser Ser Asp Cys Ile Tyr Gly Arg Asp Cys Arg Ala Pro Cys Asp Arg			
340	345	350	
Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro Asn Leu Ala Lys			
355	360	365	
Val Cys Glu Leu Leu Arg Asp Tyr Leu Leu Pro Gly Ala Pro Ala Gly			
370	375	380	
Leu Tyr Glu Glu Leu Gly Lys Gln Leu Arg Thr Cys Thr Thr Leu Ser			
385	390	395	400
Gly Leu Ala Ser Gln Ile Glu Ala His His Ser Leu Val Leu Ser His			
405	410	415	
Leu Lys Thr Leu Leu Trp Arg Glu Ile Ser Asn Thr Asn Tyr Ser			
420	425	430	

<210> 68

<211> 428

<212> PRT

<213> Mus musculus

<400> 68

Met Val Tyr Val His Tyr Ser Ser Tyr Ser Glu Leu Cys Arg Gly His
1 5 10 15

Val Cys Gln Val Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser
20 25 30
Gly Ser Val Cys Gln Asp Leu Cys Glu Leu Gln Lys Val Glu Trp Arg
35 40 45
Thr Cys Leu Ser Ser Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp
50 55 60
Gln Asp Lys Glu Val Thr Ile Lys Cys Gly Ile Glu Glu Ala Leu Asn
65 70 75 80
Ser Lys Ala Trp Pro Asp Ala Ala Pro Arg Arg Glu Leu Val Leu Phe
85 90 95
Asp Lys Pro Thr Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr
100 105 110
Leu Ser Phe Leu Lys Ala Asn Leu Gly Asp Leu Pro Ser Leu Pro Ala
115 120 125
Leu Val Asp Gln Ile Leu Leu Met Ala Asp Phe Asn Lys Asp Ser Arg
130 135 140
Val Ser Leu Ala Glu Ala Lys Ser Val Trp Ala Leu Leu Gln Arg Asn
145 150 155 160
Glu Phe Leu Leu Leu Leu Ser Leu Gln Glu Lys Glu His Ala Ser Arg
165 170 175
Leu Leu Gly Tyr Cys Gly Asp Leu Tyr Leu Thr Glu Gly Ile Pro His
180 185 190
Gly Ser Trp His Gly Ala Val Leu Leu Pro Ala Leu Arg Pro Leu Leu
195 200 205
Pro Ser Val Leu His Arg Ala Leu Gln Gln Trp Phe Gly Pro Ala Trp
210 215 220
Pro Trp Arg Ala Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu
225 230 235 240
Leu Phe His Gly Ser Tyr Gly Thr Phe Tyr Met Cys Glu Thr Thr Leu
245 250 255
Ala Asn Val Gly Tyr Thr Ala Thr Tyr Asp Phe Lys Met Ala Asp Leu
260 265 270

Gln Gln Val Ala Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg
 275 280 285

His Cys Glu Gln Ser Ser Asp Cys Ile Tyr Gly Arg Asp Cys Arg Ala
 290 295 300

Pro Cys Asp Arg Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro
 305 310 315 320

Asn Leu Ala Lys Val Cys Glu Leu Leu Arg Asp Tyr Leu Leu Pro Gly
 325 330 335

Ala Pro Ala Gly Leu Tyr Glu Glu Leu Gly Lys Gln Cys Ala Pro Ala
 340 345 350

Pro Gln Lys Val Asp Trp Pro Ala Arg Leu Arg Leu Thr Ile His Trp
 355 360 365

Cys Leu Ala Thr Leu Arg Pro Tyr Ser Gly Gly Arg Ser Pro Thr Pro
 370 375 380

Thr Thr Pro Arg Ala Ala Gly Ser Arg His Tyr Ser Ser Gln Val Ala
 385 390 395 400

Pro Pro His Ser Leu Gln Gln Leu Ser Arg Gly Ala Arg Gly Pro Tyr
 405 410 415

Gln Arg Trp Pro Thr Gly Pro Asn Pro Pro Asn Met
 420 425

<210> 69
 <211> 266
 <212> PRT
 <213> Homo sapiens

<400> 69
 Met Val Glu Trp Arg Thr Cys Leu Ser Val Ala Pro Gly Gln Gln Val
 1 5 10 15

Tyr Ser Gly Leu Trp Arg Asp Lys Asp Val Thr Ile Lys Cys Gly Ile
 20 25 30

Glu Glu Thr Leu Asp Ser Lys Ala Arg Ser Asp Ala Ala Pro Arg Arg
 35 40 45

Glu Leu Val Leu Phe Asp Lys Pro Thr Arg Gly Thr Ser Ile Lys Glu
 50 55 60

Phe Arg Glu Met Thr Leu Gly Phe Leu Lys Ala Asn Leu Gly Asp Leu
 65 70 75 80

Pro Ser Leu Pro Ala Leu Val Gly Gln Val Leu Leu Met Ala Asp Phe
 85 90 95

Asn Lys Asp Asn Arg Val Ser Leu Ala Glu Ala Lys Ser Val Trp Ala
 100 105 110

Leu Leu Gln Arg Asn Glu Phe Leu Leu Leu Ser Leu Gln Glu Lys
 115 120 125

Glu His Ala Ser Arg Leu Leu Gly Tyr Cys Gly Asp Leu Tyr Leu Thr
 130 135 140

Glu Gly Val Pro His Gly Ala Trp His Ala Ala Ala Leu Pro Pro Leu
 145 150 155 160

Leu Arg Pro Leu Leu Pro Pro Ala Leu Gln Gly Ala Leu Gln Gln Trp
 165 170 175

Leu Gly Pro Ala Trp Pro Trp Arg Ala Lys Ile Ala Ile Gly Leu Leu
 180 185 190

Glu Phe Val Glu Glu Leu Phe His Gly Ser Tyr Gly Thr Phe Tyr Met
 195 200 205

Cys Glu Thr Thr Leu Ala Asn Val Gly Tyr Thr Ala Thr Tyr Asp Phe
 210 215 220

Lys Met Ala Asp Leu Gln Gln Val Ala Pro Glu Ala Thr Val Arg Arg
 225 230 235 240

Phe Leu Gln Gly Arg Arg Cys Glu His Ser Thr Asp Cys Thr Thr Gly
 245 250 255

Ala Thr Ala Gly Pro Arg Val Thr Gly Ser
 260 265

<210> 70
 <211> 428
 <212> PRT
 <213> Mus musculus

<400> 70
 Met Ala Arg Ser Leu Cys Ala Gly Ala Trp Leu Arg Lys Pro His Tyr

1	5	10	15
Leu Gln Ala Arg Leu Ser Tyr Met Arg Val Lys Tyr Leu Phe Phe Ser	20	25	30
Trp Leu Val Val Phe Val Gly Ser Trp Ile Ile Tyr Val Gln Tyr Ser	35	40	45
Thr Tyr Thr Glu Leu Cys Arg Gly Lys Asp Cys Lys Lys Ile Ile Cys	50	55	60
Asp Lys Tyr Lys Thr Gly Val Ile Asp Gly Pro Ala Cys Asn Ser Leu	65	70	75
Cys Val Thr Glu Thr Leu Tyr Phe Gly Lys Cys Leu Ser Asn Lys Pro	85	90	95
Ser Asn Gln Met Tyr Leu Gly Val Trp Asp Asn Leu Pro Gly Val Val	100	105	110
Lys Cys Gln Met Glu Gln Ala Leu His Leu Asp Phe Gly Thr Glu Leu	115	120	125
Glu Pro Arg Lys Glu Ile Val Leu Phe Asp Lys Pro Thr Arg Gly Thr	130	135	140
Thr Val Gln Lys Phe Lys Glu Met Val Tyr Ser Leu Phe Lys Ala Lys	145	150	155
Leu Gly Asp Gln Gly Asn Leu Ser Glu Leu Val Asn Leu Ile Leu Thr	165	170	175
Val Ala Asp Gly Asp Arg Asp Gly Gln Val Ser Leu Gly Glu Ala Lys	180	185	190
Ser Ala Trp Ala Leu Leu Gln Leu Asn Glu Phe Leu Leu Met Val Ile	195	200	205
Leu Gln Asp Lys Glu His Thr Pro Lys Leu Met Gly Phe Cys Gly Asp	210	215	220
Leu Tyr Val Met Glu Ser Val Glu Tyr Thr Ser Leu Tyr Gly Ile Ser	225	230	235
Leu Pro Trp Val Met Glu Leu Phe Ile Pro Ser Gly Phe Arg Arg Ser	245	250	255
Met Asp Gln Leu Phe Thr Pro Ser Trp Pro Arg Lys Ala Lys Ile Ala			

260	265	270
Ile Gly Leu Leu Glu Phe Val	Glu Asp Val Phe His	Gly Pro Tyr Gly
275	280	285
Asn Phe Leu Met Cys Asp Thr	Ser Ala Lys Asn Leu Gly Tyr	Asn Glu
290	295	300
Lys Tyr Asp Leu Lys Met Val	Asp Met Arg Lys Ile Val	Pro Glu Thr
305	310	315
Asn Leu Lys Glu Leu Ile Lys	Asp Arg His Cys Glu Ser	Asp Leu Asp
325	330	335
Cys Val Tyr Gly Thr Asp Cys	Arg Thr Ser Cys Asp Leu	Ser Thr Met
340	345	350
Lys Cys Thr Ser Glu Val Ile	Gln Pro Asn Leu Ala Lys	Ala Cys Gln
355	360	365
Leu Leu Lys Asp Tyr Leu Leu	His Gly Ala Pro Ser Glu	Ile Arg Glu
370	375	380
Glu Leu Glu Lys Gln Leu Tyr	Ser Cys Ile Ala Leu Lys	Val Thr Ala
385	390	395
Asn Gln Met Glu Met Glu His	Ser Leu Ile Leu Asn Asn	Leu Lys Thr
405	410	415
Leu Leu Trp Lys Lys Ile Ser	Tyr Thr Asn Asp Ser	
420	425	

<210> 71
 <211> 403
 <212> PRT
 <213> Homo sapiens

<400> 71
 Met Lys Tyr Leu Phe Phe Ser Trp Leu Val Val Phe Val Gly Ser Trp
 1 5 10 15
 Ile Ile Tyr Val Gln Tyr Ser Thr Tyr Thr Glu Leu Cys Arg Gly Lys
 20 25 30
 Asp Cys Lys Lys Ile Ile Cys Asp Lys Tyr Lys Thr Gly Val Ile Asp
 35 40 45

Gly	Pro	Ala	Cys	Asn	Ser	Leu	Cys	Val	Thr	Glu	Thr	Leu	Tyr	Phe	Gly	50	55	60	
Lys	Cys	Leu	Ser	Thr	Lys	Pro	Asn	Asn	Gln	Met	Tyr	Leu	Gly	Ile	Trp	65	70	75	80
Asp	Asn	Leu	Pro	Gly	Val	Val	Lys	Cys	Gln	Met	Glu	Gln	Ala	Leu	His	85	90	95	
Leu	Asp	Phe	Gly	Thr	Glu	Leu	Glu	Pro	Arg	Lys	Glu	Ile	Val	Leu	Phe	100	105	110	
Asp	Lys	Pro	Thr	Arg	Gly	Thr	Thr	Val	Gln	Lys	Phe	Lys	Glu	Met	Val	115	120	125	
Tyr	Ser	Leu	Phe	Lys	Ala	Lys	Leu	Gly	Asp	Gln	Gly	Asn	Leu	Ser	Glu	130	135	140	
Leu	Val	Asn	Leu	Ile	Leu	Thr	Val	Ala	Asp	Gly	Asp	Lys	Asp	Gly	Gln	145	150	155	160
Val	Ser	Leu	Gly	Glu	Ala	Lys	Ser	Ala	Trp	Ala	Leu	Leu	Gln	Leu	Asn	165	170	175	
Glu	Phe	Leu	Leu	Met	Val	Ile	Leu	Gln	Asp	Lys	Glu	His	Thr	Pro	Lys	180	185	190	
Leu	Met	Gly	Phe	Cys	Gly	Asp	Leu	Tyr	Val	Met	Glu	Ser	Val	Glu	Tyr	195	200	205	
Thr	Ser	Leu	Tyr	Gly	Ile	Ser	Leu	Pro	Trp	Val	Ile	Glu	Leu	Phe	Ile	210	215	220	
Pro	Ser	Gly	Phe	Arg	Arg	Ser	Met	Asp	Gln	Leu	Phe	Thr	Pro	Ser	Trp	225	230	235	240
Pro	Arg	Lys	Ala	Lys	Ile	Ala	Ile	Gly	Leu	Leu	Glu	Phe	Val	Glu	Asp	245	250	255	
Val	Phe	His	Gly	Pro	Tyr	Gly	Asn	Phe	Leu	Met	Cys	Asp	Thr	Ser	Ala	260	265	270	
Lys	Asn	Leu	Gly	Tyr	Asn	Asp	Lys	Tyr	Asp	Leu	Lys	Met	Val	Asp	Met	275	280	285	
Arg	Lys	Ile	Val	Pro	Glu	Thr	Asn	Leu	Lys	Glu	Leu	Ile	Lys	Asp	Arg	290	295	300	

His Cys Glu Ser Asp Leu Asp Cys Val Tyr Gly Thr Asp Cys Arg Thr
 305 310 315 320

Ser Cys Asp Gln Ser Thr Met Lys Cys Thr Ser Glu Val Ile Gln Pro
 325 330 335

Asn Leu Ala Lys Ala Cys Gln Leu Leu Lys Asp Tyr Leu Leu Arg Gly
 340 345 350

Ala Pro Ser Glu Ile Arg Glu Glu Leu Glu Lys Gln Leu Tyr Ser Cys
 355 360 365

Ile Ala Leu Lys Val Thr Ala Asn Gln Met Glu Met Glu His Ser Leu
 370 375 380

Ile Leu Asn Asn Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Tyr Thr
 385 390 395 400

Asn Asp Ser

<210> 72
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 72
 Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30

Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45

Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
 85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
 130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
 145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
 165 170 175

Phe Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr Val
 180 185 190

Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu Ser
 195 200 205

Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala Val
 210 215 220

Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr Cys
 225 230 235 240

Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile Tyr
 245 250 255

Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Met Phe Leu
 260 265 270

Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu Ile Tyr
 275 280 285

Thr Leu Arg Arg Glu Val Lys Gly Ala Leu Gly Arg Leu Leu Leu Gly
 290 295 300

Lys Arg Glu Leu Gly Lys Glu
 305 310

<210> 73

<211> 314

<212> PRT

<213> Marmota marmota

<400> 73

Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly

1	5	10	15
Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu	20	25	30
Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val	35	40	45
Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala	50	55	60
His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln	65	70	75
Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly	85	90	95
Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys	100	105	110
Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys	115	120	125
Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu	130	135	140
Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser	145	150	155
Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His	165	170	175
Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr	180	185	190
Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu	195	200	205
Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala	210	215	220
Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr	225	230	235
Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile	245	250	255
Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met			

260	265	270
Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu		
275	280	285
Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu		
290	295	300
Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu		
305	310	
<210> 74		
<211> 320		
<212> PRT		
<213> Homo sapiens		
<400> 74		
Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly		
1	5	10 15
Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala		
20	25	30
Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala		
35	40	45
Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg		
50	55	60
Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln		
65	70	75 80
Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly		
85	90	95
Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys		
100	105	110
Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys		
115	120	125
Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met		
130	135	140
Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys		
145	150	155 160

Thr	Leu	Thr	Leu	Asn	Leu	Pro	Thr	Cys	Gly	Asn	Asn	Ile	Leu	Asp	His
				165					170					175	
Phe	Leu	Cys	Glu	Leu	Pro	Ala	Leu	Val	Lys	Ile	Ala	Cys	Val	Asp	Thr
			180					185					190		
Thr	Thr	Val	Glu	Met	Ser	Val	Phe	Ala	Leu	Gly	Ile	Ile	Ile	Val	Leu
		195					200					205			
Thr	Pro	Leu	Ile	Leu	Ile	Leu	Ile	Ser	Tyr	Gly	Tyr	Ile	Ala	Lys	Ala
	210					215					220				
Val	Leu	Arg	Thr	Lys	Ser	Lys	Ala	Ser	Gln	Arg	Lys	Ala	Met	Asn	Thr
225				230					235						240
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Met	Phe	Tyr	Gly	Thr	Ile	Ile
			245						250					255	
Tyr	Met	Tyr	Leu	Gln	Pro	Gly	Asn	Arg	Ala	Ser	Lys	Asp	Gln	Gly	Lys
		260					265						270		
Phe	Leu	Thr	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Ser	Leu	Asn	Pro	Leu
		275					280						285		
Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Met	Lys	Asp	Ala	Leu	Lys	Lys	Leu
	290				295						300				
Met	Arg	Phe	His	His	Lys	Ser	Thr	Lys	Ile	Lys	Arg	Asn	Cys	Lys	Ser
305				310						315					320

<210> 75

<211> 320

<212> PRT

<213> Homo sapiens

<400> 75

Met	Asp	Gln	Ser	Asn	Tyr	Ser	Ser	Leu	His	Gly	Phe	Ile	Leu	Leu	Gly
1				5					10					15	

Phe	Ser	Asn	His	Pro	Lys	Met	Glu	Met	Ile	Leu	Ser	Gly	Val	Val	Ala
		20						25					30		

Ile	Phe	Tyr	Leu	Ile	Thr	Leu	Val	Gly	Asn	Thr	Ala	Ile	Ile	Leu	Ala
	35						40					45			

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80

Val Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190

Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
 195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
 210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
 245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
 260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 76

<211> 320

<212> PRT

<213> Homo sapiens

<400> 76

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80

Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr

180	185	190
Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu		
195	200	205
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala		
210	215	220
Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr		
225	230	240
Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile		
245	250	255
Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys		
260	265	270
Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu		
275	280	285
Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu		
290	295	300
Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser		
305	310	320

<210> 77

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 7tm_1, 7
transmembrane receptor domain sequence

<400> 77

Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg		
1	5	10 15
Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu		
20	25	30
Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly		
35	40	45

Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Val Gly Ala Leu Phe
 50 55 60

Val Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile
 65 70 75 80

Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg
 85 90 95

Thr Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala
 100 105 110

Leu Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val
 115 120 125

Glu Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser
 130 135 140

Val Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu
 145 150 155 160

Pro Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu
 165 170 175

Arg Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser
 180 185 190

Glu Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val
 195 200 205

Leu Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys
 210 215 220

Leu Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu
 225 230 235 240

Trp Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr
 245 250

<210> 78

<211> 188

<212> PRT

<213> Homo sapiens

<400> 78

Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Phe Arg Gln Pro Ser

1	5	10	15
Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly			
20	25	30	
Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met			
35	40	45	
Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile			
50	55	60	
Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys			
65	70	75	80
Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys			
85	90	95	
Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala			
100	105	110	
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu			
115	120	125	
Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn			
130	135	140	
Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly			
145	150	155	160
Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp			
165	170	175	
Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu			
180	185		

<210> 79

<211> 188

<212> PRT

<213> Mus musculus

<400> 79

Met Thr Ser Pro Trp Ser Ala Phe Pro Val Gln Ile Pro Gln Pro Ser			
1	5	10	15
Ile Arg Gly Leu Ser Gln Ile Thr Lys Ser Leu Phe Ile Ser Asn Gly			
20	25	30	

Val Ala Ala Asn Asn Lys Leu Leu Leu Ser Ser Asn Gln Ile Thr Thr
 35 40 45

Val Ile Asn Val Ser Val Glu Val Ala Asn Thr Phe Tyr Glu Asp Ile
 50 55 60

Gln Tyr Val Gln Val Pro Val Val Asp Ala Pro Val Ala Arg Leu Ser
 65 70 75 80

Asn Phe Phe Asp Ser Val Ala Asp Arg Ile His Ser Val Glu Met Gln
 85 90 95

Lys Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
 100 105 110

Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Val
 115 120 125

Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
 130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Leu Gln Leu Phe Gly
 145 150 155 160

Lys Asn Thr Met Gln Met Met Asp Ser Pro Met Gly Arg Ile Pro Asp
 165 170 175

Ile Tyr Glu Lys Glu Thr Arg Leu Met Ile Pro Leu
 180 185

<210> 80

<211> 151

<212> PRT

<213> Homo sapiens

<400> 80

Ala Arg Gly Leu Ser Ser Asn Gln Ile Thr Met Val Ile Asn Val Ser
 1 5 10 15

Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile Gln Tyr Met Gln Val
 20 25 30

Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys Asp Phe Phe Asp Pro
 35 40 45

Ile Ala Asp His Ile His Ser Val Glu Met Lys Gln Gly Arg Thr Leu
 50 55 60

Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala Ala Leu Cys Leu Ala
 65 70 75 80

Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu Asp Ala His Thr Trp
 85 90 95

Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn Ser Gly Phe Trp Glu
 100 105 110

Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly Lys Asn Thr Val His
 115 120 125

Met Val Ser Ser Pro Val Gly Met Ile Pro Asp Ile Tyr Glu Lys Glu
 130 135 140

Val Arg Leu Met Ile Pro Leu
 145 150

<210> 81

<211> 187

<212> PRT

<213> Mus musculus

<400> 81

Met Thr Thr Ala Ser Cys Ile Phe Pro Ser Gln Ala Thr Gln Gln Asp
 1 5 10 15

Asn Ile Tyr Gly Leu Ser Gln Ile Thr Ala Ser Leu Phe Ile Ser Asn
 20 25 30

Ser Ala Val Ala Asn Asp Lys Leu Thr Leu Ser Asn Asn His Ile Thr
 35 40 45

Thr Ile Ile Asn Val Ser Ala Glu Val Val Asn Thr Phe Phe Glu Asp
 50 55 60

Ile Gln Tyr Val Gln Val Pro Val Ser Asp Ala Pro Asn Ser Tyr Leu
 65 70 75 80

Tyr Asp Phe Phe Asp Pro Ile Ala Asp Ile His Gly Val Glu Met Arg
 85 90 95

Asn Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
 100 105 110

Thr Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Asn Met Thr Leu Leu

115	120	125
Asp Ala His Thr Trp Thr Lys Thr Cys Arg Pro Ile Ile Arg Pro Asn		
130	135	140
Asn Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Lys Leu Phe Ser		
145	150	155
		160
Arg Asn Thr Val Arg Met Ile Tyr Ser Pro Ile Gly Leu Ile Pro Asn		
	165	170
		175
Ile Tyr Glu Lys Ala Tyr Leu Met Glu Leu Met		
	180	185

<210> 82

<211> 190

<212> PRT

<213> Homo sapiens

<400> 82

Met Thr Ala Ser Ala Ser Ser Phe Ser Ser Ser Gln Gly Val Gln Gln
1 5 10 15

Pro Ser Ile Tyr Ser Phe Ser Gln Ile Thr Arg Ser Leu Phe Leu Ser
20 25 30

Asn Gly Val Ala Ala Asn Asp Lys Leu Leu Leu Ser Ser Asn Arg Ile
35 40 45

Thr Ala Ile Val Asn Ala Ser Val Glu Val Val Asn Val Phe Phe Glu
50 55 60

Gly Ile Gln Tyr Ile Lys Val Pro Val Thr Asp Ala Arg Asp Ser Arg
65 70 75 80

Leu Tyr Asp Phe Phe Asp Pro Ile Ala Asp Leu Ile His Thr Ile Asp
85 90 95

Met Arg Gln Gly Arg Thr Leu Leu His Cys Met Ala Gly Val Ser Arg
100 105 110

Ser Ala Ser Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ser Met Ser
115 120 125

Leu Leu Asp Ala His Thr Trp Thr Lys Ser Arg Arg Pro Ile Ile Arg
130 135 140

Pro Asn Asn Gly Phe Trp Glu Gln Leu Ile Asn Tyr Glu Phe Lys Leu
 145 150 155 160

Phe Asn Asn Asn Thr Val Arg Met Ile Asn Ser Pro Val Gly Asn Ile
 165 170 175

Pro Asp Ile Tyr Glu Lys Asp Leu Arg Met Met Ile Ser Met
 180 185 190

<210> 83

<211> 139

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DSPc, Dual
 specificity phosphatase domain sequence

<400> 83

Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Ser Asp
 1 5 10 15

Ala Ser Asn Leu Ala Leu Leu Lys Lys Leu Gly Ile Thr His Val Ile
 20 25 30

Asn Val Thr Glu Glu Val Pro Asn Ser Asn Lys Ser Gly Phe Leu Tyr
 35 40 45

Leu Gly Ile Pro Val Asp Asp Asn Thr Glu Thr Lys Ile Ser Pro Tyr
 50 55 60

Leu Pro Glu Ala Val Glu Phe Ile Glu Asp Ala Glu Lys Lys Gly Gly
 65 70 75 80

Lys Val Leu Val His Cys Gln Ala Gly Val Ser Arg Ser Ala Thr Leu
 85 90 95

Ile Ile Ala Tyr Leu Met Lys Tyr Arg Asn Met Ser Leu Asn Asp Ala
 100 105 110

Tyr Asp Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly
 115 120 125

Phe Leu Arg Gln Leu Ile Glu Tyr Glu Arg Lys
 130 135

<210> 84
 <211> 139
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Description of
 Artificial Sequence: DSPc, Dual specificity
 phosphatase domain sequence

<400> 84
 Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Pro Thr
 1 5 10 15
 Ala Ser Asn Leu Ala Phe Leu Ser Lys Leu Gly Ile Thr His Val Ile
 20 25 30
 Asn Val Thr Glu Glu Val Pro Asn Ser Lys Asn Ser Gly Phe Leu Tyr
 35 40 45
 Leu His Ile Pro Val Asp Asp Asn His Glu Thr Asp Ile Ser Pro Tyr
 50 55 60
 Leu Asp Glu Ala Val Glu Phe Ile Glu Asp Ala Arg Gln Lys Gly Gly
 65 70 75 80
 Lys Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala Thr Leu
 85 90 95
 Ile Ile Ala Tyr Leu Met Lys Thr Arg Asn Leu Ser Leu Asn Glu Ala
 100 105 110
 Tyr Ser Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly
 115 120 125
 Phe Lys Arg Gln Leu Ile Glu Tyr Glu Arg Lys
 130 135

<210> 85
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: PTPc, Protein
 tyrosine phosphatase domain sequence

<400> 85
 Arg Lys Ser Gln Ser Thr Leu Arg Asn Ser Gly Pro Ile Val Val His
 1 5 10 15

Cys Ser Ala Gly Val Gly Arg Thr Gly Thr Phe Ile Ala Ile Asp Ile
 20 25 30

Leu

<210> 86

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
 sequence

<400> 86

ctggaccgaa gctacagcta ta 22

<210> 87

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
 sequence

<400> 87

atggcccagg cccattctac aataaa 26

<210> 88

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
 sequence

<400> 88

cgagctcctc ttcagagatg a 21

<210> 89
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

 <400> 89
 gctccttcaa gacggtgtat c 21

 <210> 90
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

 <400> 90
 ctagacaccg acaccacagt ggaggt 26

 <210> 91
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

 <400> 91
 ccgctcagct ctagacagtt t 21

 <210> 92
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer

sequence

<400> 92
gtaaaggcat ctccacctga ct 22

<210> 93
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 93
tcacttccat ccagggccac tgg 23

<210> 94
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 94
gggctaatat cagctggaat tc 22

<210> 95
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 95
aattgtttgg caagaacact gt 22

<210> 96
<211> 26
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 96

ccagtgggaa tgatccctga catcta

26

<210> 97

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 97

atcatcaaac ggacttcctt ct

22